

# Sustainability Framework Working Group Final Report

## Terms of Reference:

The Working Group was asked to meet the following purpose:

To develop a draft report for Council on a proposed sustainability framework to enable Council, staff, and the community to make decisions that best support Bowen Island's Mission Statement:

And with the following, more specific, objectives:

1. Review the vision for Bowen Island stated in existing documents, such as the OCP and the Municipality's Mission Statement, in light of key 21<sup>st</sup> century challenges;
2. Set priorities where action is needed to achieve the vision;
3. Set achievable but ambitious goals for these priority areas;
4. Develop practical strategies to achieve the goals;
5. Suggest early actions that meet strategic goals and build energy and support for the process;
6. Develop indicators to monitor progress;
7. Build an accountability report card that can be used to monitor progress for the community and adjust plans as appropriate.

The full Terms of Reference are in Appendix 1.

## Membership:

Elizabeth Ballantyne  
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David Hocking (Chair)  
Jason Smith (Staff support)  
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## Process:

- Reviewed core documents with respect to the implied vision and the specified 21<sup>st</sup> century challenges.

- Conducted community consultation led by Mark Holland to articulate core values, goals and strategies for a Bowen sustainable development strategy;
- Reviewed draft Sustainable Development Strategy developed by Mark Holland, with reference to core policy documents, to custom-tailor goals and strategies to Bowen;
- Drafted a 2020 Vision based on values expressed in policy documents and draft sustainability framework;
- Prepared a draft sustainability assessment tool for use in re-zonings (See Appendix 3);
- Developed a draft sustainability framework as an action document with targets, strategies and indicators in priority areas;
- Completed Objectives #1-#6 in TOR as far as is currently possible;
- Outlined a draft action plan for next steps.

## **Discussion and Recommendations:**

To meet the different elements of the Terms of Reference, this report is divided into three sections – Vision Review, Recommended Framework, and Recommended Next Steps.

While the SFWG’s *purpose* is to provide a sustainability framework for municipal decisions, the *objectives* ask that the framework be constructed to meet the “vision for Bowen Island.” Since there is no existing, stated “vision” for the community, the first task was to construct a Bowen Island vision implied by existing documents. The second task was to develop a sustainability framework appropriate for that vision. The third was to recommend next steps.

### **1. Vision Review**

The Terms of Reference asked the Working Group to review the vision for Bowen Island as stated in existing documents, such as the Official Community Plan (OCP) and the Municipality’s Mission Statement, in light of key 21<sup>st</sup> century challenges. The challenges are defined as climate change, peak oil and the general degradation of ecosystems. The Working Group added housing affordability to the list of challenges, since the high cost of housing on Bowen is forcing people to leave the island, and now threatens the OCP’s broad objectives which relate to the local economy and population diversity.

There is no official or explicitly stated Bowen Island vision for the Working Group to comment on.

However, a vision is a communications device that articulates *what an organization aspires to become*, and the OCP’s principles and objectives provide guidance. The OCP’s, *Section 2, Broad Community Objectives*, states the OCP is based on the Island’s Trust Act and Policy Statement, and then outlines principles and broad objectives that could, taken together, constitute a vision.

#### **Islands Trust Act:**

- “...to preserve and protect the trust area and its unique amenities and environment for benefit of the residents of the trust area and of the Province generally...”

## **Official Community Plan Principles and Broad Objectives:**

The principles of this plan are:

- Maintenance of the intrinsic attraction, insular rural identity and sense of serenity of the island and recognition of the desire of existing residents to be independent, self-reliant and able to exhibit local initiative and cooperation.
- Understanding that land should be respected as one of the requirements of life rather than simply a commodity.
- Generally that there shall be no net increase in overall island lot density from that lot density proposed by policy in the previous Official Community Plan (Bylaw 14). Adjustments to the distribution and size of new lots on the island may be provided in recognition of the objectives and policies of this Plan, but only by:
  - a) Maintaining the lot density on individual lots and adjusting distribution and size of proposed new lots within a single parent lot for purposes of accomplishing the objectives and policies of this Plan; or
  - b) Where lots cannot accommodate the proposed lot density and still allow for the objectives and policies of this Plan to be upheld, then transfer of development rights may be considered.
- Service policies and objectives including those applicable to public services such as transportation, water supply, waste disposal, and community services and private services such as service commercial shall be deemed to be responsive and secondary to other policies and objectives of this Plan and shall not be used to anticipate or generate demand for land use or growth.
- Recognition that the rate of development should be managed to preserve the island atmosphere which residents and visitors find so attractive.

The broad objectives of this plan are:

- To preserve and protect Bowen Island and its unique amenities and environment for the benefit of Bowen Islanders and residents of the Province generally.
- To provide environmental stewardship strategies for Bowen Island, to be followed by residents and visitors alike, that recognize both the human responsibilities toward the environment and the rights of private landowners.
- To preserve a marine-oriented community and island atmosphere.
- To establish a community service and land use pattern with high priority given to environmental and social factors.
- To encourage maintenance of a population with varying income levels, lifestyles and age groups.
- To ensure that Bowen Island is a healthy community with residents working together to improve the quality of life.
- To provide for the basic needs of full time residents, seasonal residents and visitors.
- To ensure that growth management shall be conditioned by the natural environment.
- To ensure that a balance is maintained between community well-being and the rights of individual property owners.
- To foster the creation and maintenance of local employment on the island in island based sustainable activities.
- To promote a Snug Cove village form that caters to the pedestrian and that is appropriate to a small community.
- To recognize Snug Cove Village as the commercial and community heart of Bowen Island, and to provide for the necessary expansion of commercial, residential and community/cultural uses that will contribute towards a pleasant village centre.
- To seek the cooperation of and coordination with other agencies in the implementation of objectives where the objective recognizes the jurisdiction of that agency, and to seek greater mechanisms for local control and influence of such objectives.

## **Mission Statement**

The Municipality has a mission statement, an articulation of what needs to be done to achieve the community's vision. The mission is as follows:

In carrying out its mandate, Bowen Island Municipality will work towards conducting operations in a way that:

- 1 Improves the economic, environmental and social well-being for present and future generations
- 2 Encourages and fosters community involvement;
- 3 Enhances the small, friendly, caring character of the community;
- 4 Maintains an open, accountable and effective operation;
- 5 Preserves and enhances the unique mix of natural ecosystems and green spaces that Bowen Island possesses

While none of these documents directly state a vision, the Municipality's mission statement implies one, as do the principles and objectives of the OCP. In terms of how they incorporate and address the key 21<sup>st</sup> century challenges, the Working Group found the following:

- Acting to prevent climate change and adapting to the changes it will bring are completely missing from any of the above materials. This is understandable because the issue was not broadly recognized at the time the OCP was developed. However, the strong emphasis on protecting the natural environment and improving economic, environmental and social well-being for future generations suggests that preventing and adapting to climate change would be consistent with the OCP's objectives and principles;
- Similarly, building resilience in the face of rapidly escalating energy prices, and particularly fuel prices, is not referenced in any of the documents. However, the same logic applies, and statements regarding self reliance and improving economic and social well-being for future generations suggest that strategies to this end would be consistent with the OCP's objectives and principles;
- Ecosystem protection is referenced in the Island's Trust Act and as an OCP broad objective, and is reflected in elements one and five of the Municipality's Mission Statement. However, the "human responsibilities toward the environment" do not specifically reflect the current understanding that these responsibilities go beyond avoiding local impacts, and include concepts such as reducing ecological footprints or greenhouse gas emissions;
- While the threat presented by expensive and limited housing options is not specifically addressed, the OCP broad objectives include maintaining population diversity and the creation of local employment and commercial expansion in Snug Cove, and the Municipality's Mission Statement speaks broadly of improving social well being.

From this assessment of the OCP and the Mission Statement in light of current challenges, the Working Group derived the following brief articulation of a Bowen Island Vision, and suggests an additional clause to the Mission Statement. It is presented below, with any new elements in *italics*:

### ***Vision (What Bowen aspires to be):***

*Bowen Island is known and loved as a small, friendly, caring community*

characterized by:

- *A population diverse in income, age and lifestyles,*
- *Varied and affordable housing options,*
- *Many people active in community life,*
- *Well protected natural ecosystems and green spaces,*
- *A vibrant, resilient local economy that enhances social well-being while respecting local, regional and global environmental limits,*
- *An ethic of self-reliance which underpins decisions, where conserving land, air, water, and energy reduces Bowen's ecological footprint.*

### **Mission Statement (What we do to get there)**

In carrying out its mandate, Bowen Island Municipality will work towards conducting operations in a way that:

- 1 Improves the economic, environmental and social well-being for present and future generations;
- 2 Encourages and fosters community involvement;
- 3 Enhances the small, friendly, caring character of the community;
- 4 Maintains an open, accountable and effective operation;
- 5 Preserves and enhances the unique mix of natural ecosystems and green spaces that Bowen Island possesses; and
- 6 *Minimizes the ecological footprint of life on Bowen and the export of waste and pollution.*

### **Rationale for the elements of the Vision Statement:**

*Bowen Island is known and loved as a small, friendly, caring community*

- Mission Statement

*A population diverse in income, age and lifestyles,*

- OCP Broad Objectives

*Varied and affordable housing options,*

- OCP Broad Objectives ("population diverse in income")

*Many people active in community life,*

- OCP Broad Objectives ("residents working together to improve the quality of life")
- Mission Statement

*Well protected natural ecosystems and green spaces,*

- Mission Statement,
- Islands Trust Act and Policy Statement,
- OCP Broad Objectives

*A vibrant, resilient local economy that enhances social well-being while respecting local, regional and global environmental limits,*

- OCP Broad Objectives ("to foster the creation and maintenance of local employment...;to provide for the necessary expansion of commercial...uses that will contribute towards a pleasant village centre.")
- Mission Statement

*An ethic of self-reliance underpins decisions, where conserving land, air, water, and energy reduces Bowen's ecological footprint.*

- OCP Principles ("independent, self-reliant and able to exhibit local initiative and cooperation; land should be respected.")

- OCP Broad Objectives (“environmental stewardship strategies; growth management shall be conditioned by the natural environment;

**Rationale for the addition of the sixth element to the Mission Statement:**

The current Municipal Mission Statement aligns well with the OCP Principles and Broad Objectives. However, it does not specifically address the key 21<sup>st</sup> century challenge of climate change or broad ecological degradation. While the first element of the statement, “Improves the economic, environmental and social well being for present and future generations,” cannot be realized without attention to climate change or ecological footprints, a more specific reference would help clarify what needs to be done to meet the new challenge. Therefore, we propose the addition of:

*6 Minimizes the ecological footprint of life on Bowen and the export of waste and pollution.*

## **2. Recommended Sustainability Framework**

The Sustainability Framework is constructed to meet Objectives 2-6 of the Terms of Reference. It is derived from the *Sustainable Development Strategic Plan for the Municipality of Bowen Island*, itself the product of the work of the SFWG, the Holland Barrs Planning Group, and a public workshop in June, 2007. The *Sustainable Development Strategic Plan* was ratified as a “living document” for the municipality at a joint meeting of the Committee of the Whole and the SFWG that was well-attended by the public. It is attached as Appendix 2.

The Working Group took the eight strategic directions that were the product of the Holland Barrs public process, refined the strategic goals to be more specifically tailored to Bowen Island, and for each one developed measurable goals; actions that could remove barriers to progress, lead to significant progress or create early wins; and indicators of progress toward the goals.

In addition, to help communicate the vision it supports and the actions it recommends, the Framework includes a one-page “story” describing a Bowen Island we could achieve in 2020.

The Framework follows, with a single page discussion for each strategic direction.

# **Bowen Island 2020 Vision and Sustainability Framework**



**July 2008**

**Sustainability Framework Working Group**

## **Bowen Island 2020 Story**

First, you see the trees.

Here in the year 2020, Bowen Island remains a small, socially diverse, rural community cloaked in a lush mantle of green. It didn't stay that way by accident. Early 21<sup>st</sup> Century challenges – dramatically rising oil and housing prices and the need to address global warming – were undermining the community's ability to live up to the vision within its OCP. In response, a series of decisions moved the community to a more self-reliant, socially inclusive and environmentally responsible path. Forests were protected as biological treasures, carbon sinks, and recreational and economic assets. Clustered, compact, mixed-used development was given priority, some development was shifted to Snug Cove from the remainder of the island, and economic development and housing affordability strategies were put in place. The result has been a degree of protection from ever higher energy prices, a 33% cut in greenhouse gas emissions and stronger community ties.

Snug Cove is still a maritime village tucked among the trees. As the community's commercial, recreational, and residential hub, many more people now live, work, walk, create, shop, and play here. With a variety of housing types—such as apartments, townhouses and live-work spaces above stores—the neighbourhood hosts a diverse population, reflecting a wide variety of incomes, ages, and family types. Meanwhile, the area's civic facilities serve as the community's front porch and living room.

A diversified economy allows more islanders to work on the island and purchase many of their goods and services here. Bowen now supports an array of home, office, service, retail, and health businesses, light industrial enterprises, and its own food production and waste-management operations. Thanks to a resource-recovery program and a composting facility, the quantity of garbage leaving our shores has slowed to a trickle.

Despite an increase in the island's population, traffic is not a burden—the result of viable public transportation and rideshare systems, expanded trail networks, and mixed-use neighbourhoods that lessen the need for travel. While ferry traffic still moves through the village, volumes have declined because so many people now live and work on the island. Among those who commute for employment, many are foot passengers; the convenience of our transit system linked with Metro Vancouver far outweighs the expense, delays, and ecological costs of private cars.

Islanders are caring, engaged, and committed to building a conscientious community. As the island prospers, so too does its culture and arts. With an increasingly self-reliant and vibrant economy, combined with a housing authority that offers affordable-living options, we have enhanced social diversity and community well-being.

Our island is recognized nationally for its remarkable achievements: It remains small, affordable, and safe, despite its proximity to one of the world's great cities. It has demonstrated how an increasingly exclusive and car-dependent suburb can transform itself into a socially diverse, increasingly self-reliant community. And it is leading the way with year-round food production, renewable energy generation, and programs aimed at carbon neutrality and zero waste. In short, Bowen Island is renowned for its unshakeable commitment to its people, its economy, and its ecological integrity. It has become an adaptable and resilient community for present and future generations.

## **Strategic Direction #1**

### **Maintain Natural Island Character, Focusing Growth in Snug Cove Village**

#### **Strategic Goal:**

*Maintain Bowen's natural ecosystems and island character by accommodating its major growth in a mixed use node: Snug Cove. The intention is to retain as much forested, wild and agricultural land as possible while focusing major future housing, commercial, employment, community and recreational uses in the village of Snug Cove.*

#### **Measurable Goal(s):**

- Policy and regulations in place by 2010 mandate a shift to complete, energy efficient and compact neighbourhoods, including migrating density to Snug Cove from the remainder of the island;
- Snug Cove development plan and strategy in place by 2010.

#### **Key Actions: (e.g. low-hanging fruit, big opportunities, overcome hurdles)**

- OCP review by 2010 with a view to creating a complete, compact, energy efficient community, limiting greenfield development outside of Snug Cove and migrating development to Snug Cove;
- Subdivision regulations revised by 2010 so that subdivisions outside Snug Cove are clustered, highly energy efficient and include a dedication of a minimum of 50% open forest;

#### **Success indicators:**

- Increase in the ratio of new residential units in Snug Cove/total new residential units;
- Decline in the ratio of square meters of roads/resident (Also an indicator for Strategic Direction 5);
- Snug Cove is a stronger commercial and recreational centre, meeting more residents' needs and reducing car trips off the island.

## **Strategic Direction #2**

### **Support Efficient, Effective, and Innovative Transportation**

#### **Strategic Goal:**

*Grow increasingly independent of fossil-fuel-based transportation where there is, over time, decreasing need for an automobile; where access to desired destinations is safe and easy; and where road, trail, and marine routes have a minimal impact on the natural environment.*

#### **Measurable Goal(s):**

- GHG emissions from off-island road transportation and on-island transportation cut by at least 50% from 2007 levels by 2020;
- Effective, low emission, public transportation system on Bowen by 2010;
- Integration of BC Ferries and TransLink services to provide effective foot passenger service to Vancouver by 2010;
- Ferry emissions do not increase over 2008 levels.

#### **Key Actions: (e.g. low-hanging fruit, big opportunities, overcome hurdles)**

- Complete an alternative transportation trail system by 2015;
- Work with TransLink and BC Ferries to develop a coordinated, direct bus service to downtown competitive with cars in convenience and cost;
- Give ferry marshalling priority to pedestrians, bus users, and more efficient cars and ride-share cars;
- BIM demonstrates leadership by using efficient vehicles as part of its carbon neutral strategy.

#### **Success indicators:**

- Increasing ratio of ferry passengers/cars
- Increasing ratio of Bowen bus ridership/km driven
- Decreasing ratio of Bowen bus CO2 emissions/passenger kilometer
- Decline in weekly gas consumption/person.

## **Strategic Direction #3**

### **Adopt Green Building and Development Best Practices**

#### **Strategic Goal:**

*Bowen Island's buildings will evolve to be energy and water efficient, constructed largely from local materials (from the island or the surrounding region), have low greenhouse-gas emissions, address on-site waste management and be built to last, while retaining the unique character of built form on Bowen Island.*

#### **Measurable Goal(s):**

- By 2010, BIM will have established targets, timetables and strategies for renewable energy and energy efficiency initiatives in support of the municipality's greenhouse gas targets;
- By 2020, more energy efficient buildings and buildings with renewable energy contribute to minimum of a 33% reduction in GHGs (from 2007 levels);
- By 2015 all new buildings will be Leed Platinum or equivalent and required to have significant rainwater storage systems.

#### **Key Actions: (e.g. low-hanging fruit, big opportunities, overcome hurdles)**

- Set up a renewable energy/energy efficiency working group, which includes representatives from the local construction industry, to act as a lead organization to recommend to Council targets, strategies, funding, public engagement mechanisms, and pilot projects for increasing the efficiency of energy use and the utilization of renewable energy, in support of the municipality's GHG targets;
- Create a pilot project for solar hot water to facilitate the development of incentives, guidelines or bylaws which support the development of local, sustainable energy for new and existing residential buildings;
- Ask the APC to develop a mechanism to cap house sizes, with a sliding scale of increasing energy and materials efficiency for larger homes;
- Work with the Province and other authorities to allow and encourage green building practices;
- Identify on-Bowen opportunities to participate in the provincial Carbon Trust program and establish an action plan to obtain funding;
- Adopt best practices green building policy for civic buildings.
- Work with BC Hydro and a renewable energy/energy efficiency working group to encourage island-wide energy efficiency, including converting oil-based home heating to electricity.

#### **Success indicators:**

- Decline in island wide electricity consumption;
- Decline in GHG emissions from fossil fuels for heating;
- Increase in on-island renewable energy generation;
- Increase in island-wide use of rainwater for domestic water.

## **Strategic Direction #4**

### **Protect and Enhance Ecosystems, and Support Climate Change Mitigation and Adaptation Strategies**

#### **Strategic Goal:**

*An extensive, interconnected network of natural ecosystems and a working landscape on land and in the adjacent sea assures the provision in perpetuity of:*

- *Sufficient and safe water supplies, flood and erosion control, and clean air;*
- *Agricultural, fish, firewood, timber and other natural products;*
- *Recreational and spiritual benefits supporting the economy and culture.*

#### **Measurable Goal(s):**

- By 2020, Bowen's system of connected protected areas conserves at least 5% of each natural ecosystem (as defined in the Islands Trust Ecosystem Mapping) and totals at least 25% of the island's surface;
- Sensitive ecosystem protection bylaw in place by 2010 with goal of no loss of biodiversity;
- Review of OCP, LUB and Draft Infrastructure Guidelines completed by 2010 to ensure compliance with this strategic goal and Greenways system goals;

#### **Key Actions: (e.g. low-hanging fruit, big opportunities, overcome hurdles)**

- Partner with Ministry of Environment Water Stewardship Branch to develop drinking water criteria and watershed management criteria for all community watersheds;
- Prohibit new ocean sewage outfalls and require sewage treatment facilities to direct effluent water for on-land re-use;
- Develop a process to inventory, monitor, and manage invasive species;
- Require developers outside Snug Cove to set aside a minimum of 50% land as park, other protected natural ecosystem status, or working landscape;
- Enter into an agreement with the Province on a moratorium on disposition or development of Crown lands for climate change mitigation and adaptation;
- Initiate a municipal education and communications program by 2009 regarding water stewardship, energy efficiency, the 3 Rs, septic system maintenance, etc.;
- Prepare a best practices land stewardship guide for private landowners by 2010;
- Introduce tree-cutting and land-clearing bylaw to protect natural areas;
- Introduce a bylaw restricting the cosmetic use of pesticides;
- Maintain ability among municipal staff to utilize GIS mapping.

#### **Success indicators:**

- Increase in hectares of protected land and working landscape;
- Existing covenant and park areas remain under protection;
- Continued presence of grouse, lizards, frogs in or near residential areas;
- Continued nesting of Great Blue Herons in Snug Cove and elsewhere.

## **Strategic Direction #5**

### **Design Infrastructure to be Efficient, Effective, and Restorative**

#### **Strategic Goal:**

*Energy, water, waste management and transportation infrastructure systems transition to low-impact designs, enhanced recovery of resources, the use of local, renewable energy, and the use of highly efficient shared infrastructure systems in the village centre.*

#### **Measurable Goal(s):**

- By 2020, revised infrastructure standards and practices contribute to minimum of a 33% reduction on GHGs (from 2007 levels);
- All organic waste handled on the island by 2010;
- Zero waste by 2030.

#### **Key Actions: (e.g. low-hanging fruit, big opportunities, overcome hurdles)**

- Establish and support a working group with the mandate of developing and recommending to Council, before the current waste management contract expires:
  - short-term actions to reduce solid waste volumes, haulage and costs,
  - a longer-term strategy that reduces solid waste volumes, haulage off island and municipal costs, and moves towards zero waste;
  - opportunities for reducing liquid waste haulage.
- Review Draft Municipal Infrastructure Bylaw to ensure alignment with sustainability, water conservation and greenhouse gas goals;
- Develop a wildlife policy addressing the impacts of municipal operations and maintenance on wildlife;
- Install recycling receptacles in Snug Cove;

#### **Success indicators:**

- Declining ratio of square meters of roads/resident (Also an indicator for Strategic Direction 2);
- Decline in export of organic, solid and wet waste;
- Decline in household water consumption.

## **Strategic Direction #6**

### **Build a Strong and Resilient Community**

#### **Strategic Goal:**

*Bowen Island envisions itself as an inclusive, diverse, healthy and vital community with a strong "islander" identity and culture of sustainability.*

#### **Measurable Goal(s):**

- Arts and recreation community centre in operation by 2012
- At least 50 affordable housing units in place in Snug cove by 2012, ownership and rental, in addition to Abbeyfield.
- Municipal housing authority in place by 2009 with an approved and funded strategy in place to meet specific requirements identified in Affordable Housing Needs Assessment (workforce, seniors, etc.)

#### **Key Actions: (e.g. low-hanging fruit, big opportunities, overcome hurdles)**

- Municipality to sponsor neighbourhood networking and action on sustainability goals;
- Council to maintain momentum of development of community centre as spearheaded by CFWG;
- Ensure that community lands sold for development deliver a range of affordable units in the quantities necessary to meet identified needs;
- Support Abbeyfield group's exploration of partnerships and collaborations with regional and provincial service agencies regarding services for seniors;
- Convene a working group of health services providers to identify needs, opportunities and obstacles to increasing self-sufficiency in health care;
- Conduct a public review of the Snug Cove Master Plan; make changes as needed and adopt a revised plan;
- Implement affordability Working Group recommendations;
- Continue to engage the community in addressing key challenges by utilizing volunteer community working groups.

#### **Success indicators:**

- Increasing ratios of affordable housing, compact housing and rental units in relation to market, single-family homes;
- Income and age diversity stabilized or enhanced in relation to 2001 census
- Decreased travel to mainland for recreation and arts;
- Increase in percentage of islanders active in community organizations and municipal working groups.

## **Strategic Direction #7**

### **Encourage a Diverse and Vibrant Economy**

#### **Strategic Goal:**

*Develop and maintain a diverse and vibrant economy based on triple bottom line accounting of economic viability, environmental responsibility and social equity.*

#### **Measurable Goal(s):**

- An Economic Development Plan with triple bottom line accountability in place by the end of 2009, which includes strategies for:
  - Increased levels of employment, products and services available on Bowen to reduce transportation needs;
  - Increased range of on-island employment opportunities, from entry level to highly skilled.

#### **Key Actions: (e.g. low-hanging fruit, big opportunities, overcome hurdles)**

- Implement recommendations of the Affordable Housing Working Group (also in Strategic Direction #6);
- Give priority to rezonings that will produce rental housing (affordable and compact and market);
- Give priority to rezonings that will create business and employment opportunities and foster the expansion of low-impact tourism that respects and celebrates natural island character;
- Conduct a public review of the Snug Cove Master Plan; make changes as needed and adopt a revised plan (Also in Strategic Direction #6);
- Review OCP and Bylaws by 2010 to remove obstacles to the development of sustainable businesses;
- Rezone lands near Snug Cove for light industrial/commercial activities;
- Identify and protect potential future agricultural lands.

#### **Success indicators:**

- Reduced business turnover in Snug Cove;
- Increased affordable, rental housing pool;
- Increase in off-season tourism;
- New business ventures launched;
- Increased on-island production of goods and services for local use;
- Increasing percentage of residents live and work on Bowen.

## **Strategic Direction #8**

### **Apply Progressive and Integrated Management**

#### **Strategic Goal:**

*The municipality provides sustainability leadership through community engagement, internal management, and collaboration with other organizations and levels of government to:*

- *break down systemic barriers to sustainable change*
- *integrate social, economic and environmental goals through every level of the organization,*
- *produce powerful initiatives in support of a sustainable future.*

#### **Measurable Goal(s):**

- Set up a system of sustainability indicators and include them in the municipal annual report.

#### **Key Actions: (e.g. low-hanging fruit, big opportunities, overcome hurdles)**

- Develop a ten-year strategic plan, supported by a five-year budget, targeted to achieve the sustainability strategy's eight strategic directions and measurable goals;
- Annual progress reporting on sustainability strategy:
  - Goals
  - Actions
  - Success indicators
  - Revised plans as required
- Exemplify:
  - lead by example through, for example, carbon neutral municipal operations by 2010;
  - ensure policies are consistent with goals;
- Engage the community through volunteer working groups, committees;
- Encourage broad action toward sustainability goals through the full array of municipal instruments, such as the tax system, expenditures/grants, recognition and/or rewards, and when needed, penalties, fines and enforcement.

#### **Success indicators:**

- Annual progress on sustainability goals as measured through the indicators in the Annual Report.

### 3. Recommended Next Steps:

The SFWG is pleased to have had the opportunity to recommend a sustainability framework for Bowen Island. The group believes it has taken the work requested in the Terms of Reference as far as possible.

- It has worked with a consultant and the community and completed a broad Sustainable Development Strategy that has been received by Council as a working document;
- It has developed and used a draft Sustainability Assessment Tool for rezonings;
- It has suggested a “vision” for the community that is implied by the OCP and the Mission Statement when considering 21<sup>st</sup> century challenges;
- It has developed an action-oriented Sustainability Framework to achieve a 2020 vision.

The SFWG therefore suggests that the Working Group be dissolved, and that Council take on the task of sustainability leadership, with the delegation of some key tasks to new volunteer groups when needed.

Progress on all of the strategic directions is required to move Bowen Island toward achieving the sustainability vision. In order to motivate action and measure progress, the SFWG recommends that a new group be struck with the task of selecting and refining a series of indicators that give the community the ability to track progress toward each of the eight strategic goals. The group could work with staff to develop the data to measure Bowen’s current state with respect to the indicators, and then annually produce a “sustainability report card” for the community. This report card could be presented to the community through the Municipality’s Annual Report.

In addition to an indicators initiative, there are currently significant opportunities to make progress in two broad areas: moving toward zero waste, and toward renewable energy and a more efficient use of energy in buildings and infrastructure. For the former, the municipality’s contract for removing refuse from the island is a major element of its budget, and is soon due for renewal. And Metro Vancouver is developing a zero waste program that could be of assistance to Bowen.

For the latter area, the provincial government’s climate change plan includes an array of measures, grant opportunities, and new regulations that could be explored, and BC Hydro is interested in partnering with Bowen to reduce electricity consumption. And of course, Bowen has signed the Climate Change Charter committing to be carbon neutral, and has set a target to reduce greenhouse gas emissions to 33% below current levels by 2020, and needs to develop strategies to meet these commitments.

When Council is ready to move in either of these areas, it could delegate the development of targets, strategies and plans to volunteer working groups. If the groups have clear terms of reference, staff support and budgets for technical analysis, the SFWG believes they could provide solid assistance to Council.

Therefore, to provide sustainability leadership, the SFWG suggests that Council:

- Receive the Working Group's final report;
- Refer the report to the APC as a reference document for the OCP review;
- Refer the report to staff to bring forward to the next Council as a foundation document for strategic planning;
- The SFWG also recommends that in three priority areas – energy, waste management, and measuring progress – Council seek the assistance of volunteers. Specifically, it recommends that in its strategic planning Council consider the appointment of three working groups:
  - A working group with the task of developing a sustainability report card for inclusion into the municipality's Annual Report.
    - i. Review the indicators for each strategic direction in the Draft Sustainability Framework;
    - ii. Select and refine as needed;
    - iii. Work with staff to develop the data measuring the current state;
    - iv. Produce a report card for the community in time for the Annual Report.
  - A Renewable Energy/Energy Efficiency Working Group
    - i. Assess current and future alternative energy and energy efficiency opportunities;
    - ii. Recommend to Council targets, strategies, funding, public engagement mechanisms, partners, and pilot projects for increasing the efficiency of energy use and the utilization of renewable energy, in support of the municipality's GHG targets;
    - iii. Work with staff and partners to implement the plan.
  - A Waste Management Working Group to develop and recommend to Council, before the current waste management contract expires
    - i. Short-term actions to reduce solid waste volumes, haulage and costs;
    - ii. A longer-term strategy that reduces solid waste volumes, haulage off island and municipal costs, and moves towards zero waste;
    - iii. Opportunities for reducing liquid waste haulage.

## Appendix 1: Terms of Reference

### Sustainability Framework Working Group Terms of Reference

#### Overview:

At a time of new societal challenges, such as peak oil, global warming and the general degradation of ecosystems, Municipalities across Canada are beginning to address the challenge of sustainable development by recognizing that economic, environmental and social health are interdependent, and that a sustainable development approach integrates all three elements into municipal decisions. Bowen Island stands to benefit by joining other municipal leaders and developing a sustainability framework for the critical decisions that face us. The purpose of such an endeavor is to provide an overarching planning and decision-making tool that is appropriate for development in the 21<sup>st</sup> century. BIM recognized this challenge when incorporated in 2001 which is reflected in the Municipality's Mission Statement:

*"In carrying out its mandate, Bowen Island Municipality will work towards conducting operations in a way that:*

- 1. Improves the economic, environmental and social well-being for present and future generations;*
- 2. Encourages and fosters community involvement;*
- 3. Enhances the small, friendly, caring character of the community;*
- 4. Maintains an open, accountable and effective operation; and*
- 5. Preserves and enhances the unique mix of natural ecosystems and green spaces that Bowen Island possesses."*

Council recognizes that a renewed commitment to sustainable development is commensurate to recent scientific and economic assessments such as the Intergovernmental Panel on Climate Change reports, the Stern report (2006) and the 2005 Millennium Ecosystem Assessment. Therefore, Council accepts the most recent scientific consensus: current economic activity is damaging planetary support systems to such an extent that it is causing social and economic harm, and that this situation will worsen significantly in the coming decades without new economic approaches.

To demonstrate a renewed commitment, Council seeks to return to its mission statement and create a means for its implementation to become more effective. To help coordinate the Municipality's initiatives, Bowen Island Municipality needs to develop a sustainability framework which outlines goals, strategies and success measures. The objective is to ensure that the Municipality's decisions and actions best support its mission.

#### Approach:

Currently, working groups comprised of experienced and skilled members are making significant contributions to Snug Cove planning. Council believes that a similar approach will add to the community's ability to move quickly and confidently toward a sustainable vision for Bowen Island.

#### Purpose:

to develop a draft report for Council on a proposed sustainability framework to enable Council, staff, and the community to make decisions that best support Bowen Island's Mission Statement:

#### Objectives:

1. Review the vision for Bowen Island stated in existing documents, such as the OCP and the Municipality's Mission Statement, in light of key 21<sup>st</sup> century challenges;
2. Set priorities where action is needed to achieve the vision;
3. Set achievable but ambitious goals for these priority areas;
4. Develop practical strategies to achieve the goals;
5. Suggest early actions that meet strategic goals and build energy and support for the process;

6. Develop indicators to monitor progress;
7. Build an accountability report card that can be used to monitor progress for the community and adjust plans as appropriate.

To provide additional expertise, the Working Group will hire a lead consultant to advise the Working Group:

- o On a process to develop a sustainability framework;
- o To provide access to technical expertise as needed;
- o To advise on and potentially facilitate public consultation processes.

However, every effort will be made to minimize consulting costs through the high level of volunteer expertise on the Working Group

**Composition and Authority to Act:**

- o The Working Group reports to Council through its Chair.
- o The Working Group has the authority to meet with Municipal staff in support of its work plan.
- o The Working Group will be chaired by Councilor Hocking, with membership of Mayor Bob Turner, CAO Isabell Hadford, Municipal Planner Jason Smith, Contract Planner Andy Beaird, Public Works Superintendent Brad Hawthorn, and a minimum four members of the public.
- o Member of the public will be solicited by advertisement and selected by Council based on their technical background in addressing and finding solutions to sustainability issues.
- o After this work plan is completed, this volunteer committee shall be disbanded, unless Council decides to extend its work.

**Timeframe:**

- o The draft report should be completed by October 2007;
- o Council's goal is to complete the process of developing a sustainability framework within 2007;
- o The process will include implementation of "quick win" actions within the year;
- o One goal is to implement the sustainability framework as a priority setting reference within the 2008 budget process;

**Budget:**

The Working Group has a budget of \$10,000 and any increase is contingent upon approval through the budget process or the obtaining of a grant

# A SUSTAINABLE DEVELOPMENT STRATEGIC PLAN FOR THE BOWEN ISLAND MUNICIPALITY



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# Introduction

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The Bowen Island Municipality is taking steps towards becoming a leading sustainable community. Bowen Island has many plans and strategies, both in place and emerging. The Municipality's mandate, reflected in its Mission Statement, is explicitly supportive of sustainable principles and approaches in the context of a rural island. Recognizing the imperative of sustainable development as reflected in recent international reports and assessments, Council set up a Sustainability Framework Working Group to more effectively implement its Mission through development of a Sustainability Framework for decision-making.

This Plan supports that initiative by identifying key opportunities for sustainable development within the community and developing strategies for long-term planning and sustainable development.

An all day workshop was held on June 9, 2007 with City Council, staff and special advisors to explore sustainable development issues and directions for Bowen Island. This document emerged from and is shaped by the comments that were put forward within that session. The participant input, regarding priorities for action on sustainability, may be referenced in the appendix of this document.

A Sustainable Development Strategic Plan assists in preparation for the 21<sup>st</sup> century that will likely bring challenges to Bowen Island including:

- Climate change;
- Restrictions in the supply of fossil fuels, especially oil – leading to increases in costs;
- Water demands that outstrip local supply;
- Increased pressures on natural ecological systems;
- Increased pressures on foreign food supplies;
- Changes in economic patterns and stability;
- Aging and demographic change; and
- Others.

This strategic plan will help to connect diverse initiatives into a meaningful whole with integrated targets through focusing on the following key messages:

- The environment isn't just about where we live – it's about how we live;
- Our quality-of-life, wellness and economic prosperity are directly affected by our environment;
- Reshaping individual and community choices regarding transportation, emissions, water usage and development is necessary to achieve sustainability;
- Impacts of global warming at the local level need to be considered and addressed by dramatically reducing greenhouse gas emissions; and
- Quality of life now must be considered in the context of quality of life in the future.

The strategic plan is based around 9 core principles of sustainability, and goals that relate to each principle. These provide a clear definition of sustainability for a community, and a framework for assessment of success in achieving community sustainability<sup>1</sup>. From that basis, a series of 8 core strategic directions is defined, corresponding to primary areas of municipal and community-

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<sup>1</sup> If desired, this framework can be meshed with indicator frameworks such as that developed in the **2001 State of Bowen Island** report, and helps to focus on indicators that relate directly to achievement of sustainability.

level action and responsibility. Each has a set of potential strategic directions and possible early projects.

The 9 core principles, with accompanying community goals, are:

<b>Protect and enhance the natural environment</b>	<ul style="list-style-type: none"><li>• Maintain a neutral or positive water balance</li><li>• Maintain good water and groundwater quality</li><li>• Ensure soils are free of contamination</li><li>• Maintain or improve soil nutrition and productivity</li><li>• Minimize local air pollution</li><li>• Be “climate-neutral”</li><li>• Support maintenance of healthy biodiversity</li></ul>
<b>Minimize resource and energy use</b>	<ul style="list-style-type: none"><li>• Rely primarily on renewable energy and materials</li><li>• Maximize efficient use of energy and materials</li><li>• Be “zero-waste” wherever possible</li></ul>
<b>Ensure the natural environment can support a strong local economy in the long term</b>	<ul style="list-style-type: none"><li>• Enhance the environment in ways that support long-term, local economic opportunities</li></ul>
<b>Maintain a vibrant and robust economy</b>	<ul style="list-style-type: none"><li>• Maximize value to the local economy from local resources and businesses</li><li>• Support highly efficient green business (to enhance strategic advantage for local business)</li><li>• Minimize negative impacts of local economic activity at a regional and global scale</li></ul>
<b>Provide economic security and opportunity for all community members</b>	<ul style="list-style-type: none"><li>• Enable households to minimize costs while maximizing quality of life</li><li>• Provide diverse, safe, fair employment opportunities</li><li>• Support and encourage development of viable local businesses</li></ul>
<b>Maintain social structures that support economic success</b>	<ul style="list-style-type: none"><li>• Encourage and nurture social networks among businesses and customers</li><li>• Provide “social safety net” to minimize impacts of temporary loss of business and employment and help balance economic cycles</li></ul>
<b>Be healthy, inclusive of diverse community members, safe, and vital</b>	<ul style="list-style-type: none"><li>• Support the needs of the full range of community members – physical, emotional, mental, cultural, spiritual/religious</li><li>• Ensure people are safe</li><li>• Support healthy lives, and provides additional care when necessary</li><li>• Provide opportunities for on-going learning</li></ul>
<b>Foster a culture of environmental stewardship Encourage a sense of place and provides for personal connections with the environment</b>	<ul style="list-style-type: none"><li>• Facilitate individual and community behaviours that foster a healthy environment</li><li>• Nurture a sense of identity, tied to the place in which the community lives</li><li>• Create opportunities to experience nature in everyday life</li></ul>

These principles and goals are general in nature, and can only be achieved through coordinated action in the various areas of municipal action. This coordination identifies core strategic directions that are strongly supportive of many of these principles and goals at once, and that are relevant to the unique circumstances of a community. Therefore, this Strategic Plan focuses on a second level of directions and goals, at a level that guides pragmatic action and allows for measurement of implementation.<sup>2</sup>

For Bowen Island, the 8 strategic directions are:

1. Combine Rural Character with Strong Village Centres
2. Support Efficient, Effective Transportation
3. Advance Green Buildings Rapidly
4. Protect and Enhance the Landscape to Support Ecology, Recreation, and Resources
5. Design Infrastructure to be Efficient, Effective, and Restorative
6. Build a Strong Community
7. Maximize Value, Equity, and Positive Impacts of Economic Activity
8. Apply Progressive and Integrated Management

Each of these strategic directions includes a selection of early projects that the Municipality can consider as first steps towards becoming a more sustainable community. Through addressing these eight core areas, this plan outlines an approach for Bowen Island to achieve success and sustainable prosperity through the 21<sup>st</sup> century.

This document is not intended to be a final strategic plan for sustainable development for the Municipality. However, it is intended as a start to significant community discussions and coordinated action on sustainable development.

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<sup>2</sup> This framework provides a two-tier framework for sustainability. The first tier sets out measurable performance objectives that relate directly to sustainability principles, permitting the community to assess its progress towards sustainability and the success of its strategic initiatives in achieving this long-term goal. The second is action-oriented, permitting assessment of specific activities that are intended to support the long-term principles. **Use of the two tiers enables a community to know (a) if it is successfully implementing its strategies and (b) if those strategies are effective in achieving sustainability.**

## Context: A Few words about Bowen Island

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To set the stage for this strategy, it is important to understand a few key things about Bowen Island. The information in this section, and other information about the island's status in respect of each of the Strategic Directions is based on the 2001 **State of Bowen Island** report, personal communications with staff, Council, and members of the public, and personal knowledge of the island.

Bowen Island:

- **Land Use:** Bowen is a rural island with a village core in the Snug Cove area. Residents are spread throughout the island, with fewer than ¼ living within 1 km of the core commercial area.
- **Transportation:** Most travel is by car, although a shuttle bus is available to meet the Snug Cove ferry at times. Almost half of employed residents work off-island, meaning they must travel from Snug Cove by ferry most days.
- **Open Space:** Bowen has substantial Crown lands, parks, and protected areas; most are second-growth forest and support a fairly diverse ecosystem.
- **Buildings:** Virtually all buildings are 1-2 storeys, with most homes single-family and most commercial spaces stand-alone 1-storey buildings.
- **Resources:** Availability of water and energy are two critical constraints on development on the island; however, it is very difficult to know beforehand when these resources have been overstretched. Water quality may become a significant issue, with most homes on septic with a typical failure rate of 1 in 20 or more.
- **Equity and affordability:** Some households are finding it increasingly difficult to afford to live on Bowen, and land values and average income levels are rising. At the same time, tourism and other service sectors are becoming more important in the economy: there is a widening gap between cost of living (especially cost of housing) and wage levels, driven on both sides of the equation.
- **Economy:** There are few local industries and virtually none are based directly on the resources of the Island (e.g. agriculture, forestry, mining, fishing), with the exception of tourism: otherwise, the economy is largely based income generated off-island. The economy is doing well as is the larger BC economy.

# Strategic Direction #1

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## Combine Rural Character with Strong Village Centres

Bowen Island currently has a predominantly rural residential pattern and off-island employment. In terms of sustainability, this has the following implications:

- High transportation demand but viable, regular transit service is difficult to support.
- Most housing is detached, and therefore high-energy.
- Most waste water systems are septic, which present a risk to groundwater unless well-maintained
- Most viable agricultural lands are not used for local food production
- Service-sector workers have a hard time affording to live locally
- The aging population faces potential isolation and associated loss of safety as people lose their current level of mobility.

The question of how many people Bowen Island can support is a significant one, given constraints on the Island's water and energy supplies and its economic dependence on off-island income. While it is recognized that constraints exist, it may be impossible to determine where they are except by developing beyond them and experiencing the consequences.

### Strategic Goal

**The Bowen Island Municipality envisions itself maintaining its rural island character while accommodating growth in mixed use nodes that offer village like development in a rural island setting.**

This goal entails focusing *virtually all* future residential and commercial development into clustered, mixed use nodes, including Snug Cove and possibly other commercial centers as viable mixed-use villages. The chosen development pattern should be capable of supporting viable transit and should provide more affordable, accessible and energy-efficient building types.

Compact mixed use village centres are important to meet sustainability goals in a rural context, because they:

- Allow for a significant reduction in transportation needs and associated emissions;
- Provide greater support for economically viable transit and passenger ferry service;
- Support local business better due to critical density of shoppers and workers;
- Support diversity, safety and social cohesion by providing appropriate space for youth and seniors, who are less mobile, and for smaller households;
- Have attached buildings (townhouses, apartments), which are inherently more energy efficient than single-family dwellings;
- Have more efficient infrastructure, especially alternative renewable energy infrastructure; and
- Are more livable and therefore desirable, offering a wider range of housing options.

The goal also involves strongly supporting sustainable rural activities and character elsewhere on the Island, by securing lands that will support future local economic development through agriculture and forestry, and lands essential to clean water supply and attractive, biodiverse ecosystems supportive of tourism.

## Directions for Action

Action	
1.1	<p><b><i>The Municipality will focus all new residential and commercial growth in mixed-use nodes on the island with a priority on a mixed-use village centre within and around Snug Cove.</i></b></p> <p>Mixed-use development within Snug Cove will improve resident access to services and housing within a walkable distance. Growth within Snug Cove will enhance the island's economic viability in addition to helping the island meet sustainability objectives (such as supporting viable transportation patterns and improving access to alternative housing options).</p> <p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"><li>• <b><i>Snug Cove Village Project</i></b> – Enhance and strengthen Snug Cove as the Island's primary mixed-use village centre.</li></ul>
1.2	<p><b><i>The Municipality will engage residents through discussion and education on the benefits of carefully located, compact mixed-use development.</i></b></p> <p>Compact mixed use development in select locations will allow Bowen Island to meet several goals of sustainable development, including supporting local businesses and offering a wider range of housing options to the community. One of the challenges of mixed-use development in a rural area involves familiarizing community members with the benefits of carefully located density. Through a variety of initiatives, the Municipality will encourage community participation in a discussion about the value of mixed-use development on Bowen Island.</p> <p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"><li>• <b><i>Community Round Table</i></b> – Set up community round table discussions on the costs and benefits of increased density in some areas.</li><li>• <b><i>Presentations</i></b> – Invite experts on density and mixed-use development to give educational presentations within the community.</li></ul>
1.3	<p><b><i>The Municipality will develop regulations that support the development of Snug Cove as a significant mixed-use centre while maintaining a small town character.</i></b></p> <p>The Municipality will develop a policy strategy to ensure that sustainable development is supported in the village centre. This may include initiatives such as flexible zoning to encourage innovative land use (e.g. considering targets for transit-supportive densities: typically approximately 7-15 units / acre).</p> <p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"><li>• <b><i>OCP Review</i></b> – Review and update the OCP, integrating sustainability goals.</li><li>• <b><i>LUB Review</i></b> – Review and update the Land Use Bylaw, integrating sustainability goals.</li></ul>
1.4	<p><b><i>The Municipality will explore the costs and benefits of mixed-use village centers in other areas of Bowen Island.</i></b></p>

The development of a mixed use village centre to serve residents in other areas of Bowen Island offers several potential benefits to the Island, including reduced automobile trips for residents, increased economic activity, increased housing options, and a possible location for a green pilot project.

**Potential Early Projects:**

- **Village Centre Feasibility Study** – Undertake a triple-bottom-line feasibility study for a mixed-use node on an appropriate site(s) on the west side of the island.

**1.5 The Municipality will work to increase housing diversity within village centres to support housing needs for all residents and employees, and all ages (i.e. youth and seniors).**

The Municipality will develop and implement a housing strategy to ensure all residents have access to appropriate housing options in the community for their income, age, family size, and ability. Housing options such as live/work space will provide residents with greater choice and flexibility.

**Potential Early Projects:**

- **Mixed Use Multi-family Pilot Project** – Consider implementing a pilot project for a mixed use, multi-family development.
- **Affordable housing** – Develop a policy that integrates affordable housing options into larger new development projects.
- **Live/work** - Consider including live/work spaces in Snug Cove Village Centre development recognizing the desire to reduce commuting as well as the desire for economic development.
- **Housing Typology** – Create an inventory of appropriate housing types for new development on Bowen Island.

**1.6 The Municipality will provide opportunities for residents to live, work, and access recreation within the Snug Cove village centre.**

The Municipality will develop a plan to ensure that mixed use development on the island has the appropriate balance of services and facilities that offer residents the opportunity to live, work, play, shop and learn within a convenient distance.

**Potential Early Projects:**

- **Snug Cove Mixed Uses Plan** – Create an inventory of existing and desired services and facilities within Snug Cove Village Centre.

**1.7 The Municipality will protect ALR land through subdivision and zoning that supports viable farming through addressing lot sizes and uses.**

ALR land is a valuable and necessary resource for an island community, especially as communities prepare to meet the challenges of the 21<sup>st</sup> Century, such as peak oil and climate change. The Municipality will manage agriculture lands through a balance between restrictions and flexibility that will allow for current and future increases in local food production capacity.

**Potential Early Projects:**

- **ALR Plan** – Develop a food strategy for the Island, including outlining strategies for

the use of agricultural lands on the Island.

**1.8 *The Municipality will set aside and protect lands that are essential for supporting a long-term, clean community water supply.***

It is important that land use planning on Bowen Island reflects the limits of the island's water supply, protecting land that allow for unimpeded groundwater recharge.

**1.9 *The Municipality will set aside and protect areas supporting significant and unique habitats.***

The natural environment on and surrounding Bowen island is a significant aspect of the island's character and is reflected in the values of both residents and visitors. The community will continue to protect natural habitat, ensuring that it is a central component of the island's land base.

## Strategic Direction #2

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### Support Efficient, Effective Transportation

Bowen Island's transportation system is currently dominated by automobile traffic. Transit is limited, except for commuter service set to meet the morning and early evening ferries. Non-recreational cycling and walking are easy in the Snug Cove area, but distances, narrow, windy rural roads, and sometimes steep topography make these modes challenging as a regular transportation choice for many islanders. On the other hand, goods movement is relatively efficient, because Snug Cove and other major commercial areas are close to the ferry landing.

Transportation is currently a major constraint and issue, as ferries are sometimes at capacity, and vehicles awaiting loading create congestion in Snug Cove and displace customer parking and access to businesses there. If the current approach to development patterns is maintained, significant on-going investment in infrastructure supporting automobiles will be required.

The rising price of oil is now recognized as a growing threat to affordable vehicle transportation: global demand for oil is rising rapidly, while supply is constrained and may in fact have reached its peak. Addressing ways to reduce reliance on by households and businesses on Bowen is important to secure future prosperity and ensure competitive advantage where high-cost energy is a critical reality.

#### Strategic Goal

**Bowen Island envisions itself as a community where there is little need for an automobile to raise a family, work, attend school, or run a business, where access to desired destinations is safe and easy; and where movement of goods and equipment is highly efficient and cost-effective.**

This goal involves:

- direct action by the Municipality as well as significant cooperation of off-island transportation providers, especially Translink and BC Ferries: off-island movement must be coordinated with on-island movement;
- land-use decisions that significantly reduce distances people must travel to regular destinations such as work, shopping and services, and regular recreation;
- significant change in investment away from supporting automobile travel and towards supporting other modes;
- action to make Bowen Island businesses and residents resilient to fuel cost increases anticipated over the next 15-20 years (within the planning horizon but beyond typical business cycles).

#### Directions for Action

**2.1 *The Municipality will develop a long-term sustainable transportation plan for Bowen Island that relies primarily on walking, cycling, ride/car-sharing, transit and clean automobiles/fuels.***

Transportation accounts for a significant amount of the greenhouse gas emissions on Bowen Island. The island faces significant constraints to reducing personal automobile use throughout the community. Through pedestrian, bicycle and transit plans, as well as

<p>through car/ride sharing and cleaner fuels and vehicles, the Municipality will work towards developing an innovative strategy outlining convenient and realistic alternatives to the vehicle for the daily needs of all residents and visitors.</p>
<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Community challenge</b> – Implement a GHG reduction community challenge and education program.</li> <li>• <b>Transportation planning</b> – Integrate sustainability and GHG reduction objectives centrally into the Island’s transportation planning.</li> </ul>
<p><b>2.2 The Municipality will work towards a carbon-neutral transportation system on the island that promotes alternative fuels and unconventional transportation options.</b></p>
<p>The Municipality will promote the reduced use of vehicles and explore strategies to encourage high efficiency, green vehicles and fuels in the community. The Municipality will also promote efficient and clean vehicles and fuels in their own fleet.</p> <p>The Municipality will work with residents and businesses on Bowen to promote ride-sharing for shopping, recreation and commuting.</p>
<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Tax incentives</b> – Consider financial incentives or punitive fees to support behaviour change or to fund alternative transportation options.</li> <li>• <b>Car Co-op</b> – Examine the opportunity for a car co-op on Bowen Island and work to stimulate or promote its development.</li> <li>• <b>Car/Ride Sharing</b> – Develop and sponsor a ride share program that will encourage residents to car pool for shopping, commuting and recreation. Ideas include a website based system, \$1 gas tokens for riders to offer (hitchhiking style), an others.</li> <li>• <b>Biofuels</b> – Explore sources of biofuel feedstock and the feasibility of developing a small biofuel production facility for the Island.</li> </ul>
<p><b>2.3 The Municipality will develop an innovative strategy for viable transit service on Bowen Island.</b></p>
<p>The Municipality will consider strategies to increase the viability of transit service for residents on Bowen Island. This will include research on small-scale community transit systems that have been successful in other rural communities and discussions with private transportation companies, in addition to Translink.</p>
<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Transit Working Group</b> – Create a transit working group to develop options for practical transit system improvements.</li> <li>• <b>Transit Service Funding</b> – Partial contributions for transit service funded by new developments (e.g. bus passes for occupants of residential buildings).</li> </ul>
<p><b>2.4 The Municipality will explore options to significantly reduce single-occupancy vehicle travel to and from the island, in cooperation with Translink and BC Ferries.</b></p>

As an island community with strong ties to a major urban centre, Bowen Island faces the challenge of reducing significantly high single-occupancy automobile between the island and the mainland. There are a variety of strategies that the Municipality may implement to begin to alternative transportation choices. A holistic plan that includes support from Translink and BC Ferries will be necessary to reduce vehicle travel to and from Bowen Island.

**Potential Early Projects**

- **Pedestrian Ferry** – Work with BC Ferries or private ferry operators to explore the possibility of a walk-on pedestrian ferry between Bowen Island and the mainland.
- **Ferry Travel Incentives** – Work with BC Ferries to develop incentives for car sharing and pedestrian/cyclist travel on the ferry (e.g. prioritized loading for multi-occupancy vehicles), possibly including priority loading for multi-occupancy vehicles.
- **Ferry Marshalling** – Create a plan for ferry marshalling in Snug Cove that balances the current reality of single-occupancy vehicle use with a movement towards alternative transportation options and sustainable traffic infrastructure (e.g. anti-idling bylaw).
- **Horseshoe Bay** – Work with BC Ferries to create increased access to affordable parking in Horseshoe Bay, encouraging foot passenger travel to Bowen Island.

**2.5 The Municipality will require development patterns that are strongly supportive of walking, cycling, and transit.**

The Municipality will ensure that the relationships between transportation and land use planning will inform all planning decisions on Bowen Island. This will include outlining development patterns that incorporate services and facilities within walking and cycling distance, and that establish commercial nodes to increase the viability of a community transit system.

**2.6 The Municipality will develop a plan for a highly connected network of pedestrian and cyclist routes in village centres and across the Island.**

The Municipality will launch initiatives that support a pedestrian- and cyclist-friendly community. Bicycle and pedestrian pathways will be integrated with services, facilities and recreational areas, creating a network that links important community areas in a human-scale, highly connected manner.

**Potential Early Projects**

- **Bike share** - Implement a community bike share program to make bicycles available throughout the community.
- **Bike storage** - Develop and implement a strategy to begin building and offering safe and dry bicycle storage in Snug Cove.

**2.7 The Municipality will investigate the development of safe, efficient cycling routes between development nodes on the Island, considering existing roads as well as**

<b><i>alternative routes.</i></b>
<p>The Municipality will develop bicycle route infrastructure to ensure safety and route connectivity for both commuter and recreational cyclists. The bicycle routes will also be designed to support electric bicycles, electric scooters and other emerging clean and micro-scale transportation technology.</p>
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b><i>Trail network map</i></b> – Include a trail network map outlining existing and planned bicycle routes on Bowen Island.</li> <li>• <b><i>Alternative network workshop</i></b> – Consider holding a planning workshop to explore the development of a comprehensive set of non-road trails that could support pedestrians, cyclists and small electric vehicles to connect key parts or most of the Island.</li> </ul>
<p><b>2.8 <i>The Municipality will develop street enhancement alternatives (SEA) for all new roads, creating multi-tasked streets that promote the goals of sustainability.</i></b></p>
<p>The Municipality will ensure that streets consider pedestrian-oriented standards, and will consider establishing new design guidelines for upgrading and new roads. Guidelines will include reducing speeds, increasing safety, reducing infrastructure costs, enhancing habitat values and increasing the social value of neighbourhoods.</p>
<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>▪ <b><i>SEA Guidelines</i></b> - Implement guidelines for street edge alternatives (SEA): curbless streets, swales, rainwater infiltration, urban forestry, and permeable surfaces. Develop these through a workshop format including gathering the extensive research done by others on these ideas.</li> <li>▪ <b><i>Car free days</i></b> - Designate car free days on selected streets for holding community events – partner with key community groups to identify these and manage them effectively.</li> </ul>

## Strategic Direction #3

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### Advance Green Buildings Rapidly

Virtually all buildings on Bowen Island are of wood-frame construction and are less than 3 storeys; furthermore, most are detached. The building stock varies considerably in age, with the bulk of it built since 1970. In 1996, homes typically had 2-3 bedrooms (average 2.54).<sup>3</sup> Very few mixed-use buildings exist, and few multi-unit residential buildings (apartments, seniors homes, etc.) exist.

Buildings in this climate typically represent up to half of a community's energy consumption – a critical factor in climate change because most new energy in BC is imported from Alberta and coal-based.

Bowen Island does not have control over its building code – it uses the BC Building Code along with most all BC municipalities. It does however have control over many aspects of buildings through zoning design guidelines and development approvals negotiation processes.

Because it is primarily detached, the building stock is relatively inefficient compared with multi-family contexts – this is typical of the Canadian rural context. For existing homes, about 5% are being renovated each year (significantly enough to obtain a building permit), which presents a major opportunity to enhance their environmental performance – especially for rural areas. For new homes, the most effective way of improving environmental performance, especially for building energy use, is to build attached forms; energy efficiency is also critical in detached forms.

A second major issue in this area is often affordability of housing and commercial spaces, and the influence this has on community composition and viability of households and local businesses. The primary factors are supply of housing and business units, and cost of construction and operation. Attached, mixed-use forms, smaller units, and resource-efficient construction all support affordability.

As a marine island, Bowen's water supply is a critical constraint on population: if too much is drawn from groundwater, saltwater will intrude and ruin – long-term – drinking water. Pollution from other sources such as failed septic systems, major erosion or hazardous materials can be equally damaging. It is therefore critical for the island community to carefully steward and conserve water – especially in buildings and landscaping. A community goal of a net balance between withdrawals and recharging of groundwater is appropriate to maintain water supplies for people on the island while supporting the natural environmental community.

Finally, Bowen Island ships some 600 tons of waste and recyclables off-island each year; construction and demolition waste are likely a significant portion of this. With the GVRD out of space in its current landfill, and looking for options hundreds of kilometers away, solid waste management is another major issue.

These issues are typically addressed by holistic green building programs, tailored to the goals and needs of the community.

### Strategic Goal

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<sup>3</sup> Statistics Canada, quoted from the 2001 State of Bowen Island report

**The buildings on Bowen Island will evolve to be 100% “green” buildings that are energy efficient, water efficient, built from largely local materials and have low GHG emissions while retaining the unique character of built form on Bowen Island.**

Buildings are one of the most important elements of a community from a sustainable development perspective, due to the amount of time we spend in them and the significant focus they are for energy, materials, and emissions. The Municipality envisions a shift to green building for the entire community, including a requirement for all new buildings in the community to be carbon-neutral by 2030, and a requirement for a net balance of water withdrawals and recharging in the very near future. It will pursue a zero-waste goal for 2030, in collaboration with the GVRD.

## **Directions for Action**

**3.1 *The Municipality will outline a comprehensive green building strategy, designed to achieve a building energy goal of climate neutral buildings by 2030 and to support a net balance of water withdrawal and recharging for all rural development.***

The Municipality will promote green buildings to increase the sustainability performance of new and existing buildings. Primary goals will include buildings being GHG neutral and powered by 100% renewable energy by 2030, in addition to using water efficiently.

The Municipality will engage residents in discussions on green building and their role within the community. Specific implementation steps may be addressed through an action plan that explores this strategy.

The green building strategy will address:

- Green building policy, guidelines and codes
- Green building rating systems (LEED, Built Green)
- Best Management Practices
- Capacity building and technical assistance
- Pilot projects
- Education and communication
- Incentives

**Potential Early Projects**

- ***Green buildings for Surplus Lands*** – The Municipality can promote green buildings in any private developments of Surplus Lands and as part of the Surplus Lands and Snug Cove planning processes

**3.2 *The Municipality will undertake a review of existing policy and regulations, making adjustments as needed to advance green building goals for the Island.***

The Municipality’s policies need to be aligned with the principles and goals of green development. The Municipality will undertake a policy and regulatory review, identifying regulatory barriers to green building and focusing on strategies to assist the adoption of green building technology and

<p>construction practices.</p>
<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Multi-family Building Policy</b> - Implement green building policies for multi-family developments.</li> <li>• <b>Green Building Incentives</b> – Establish incentives - such as density bonusing and tax incentives - to encourage developers to adopt green building practices.</li> </ul>
<p><b>3.3 The Municipality will support Provincial green building code initiatives and work with other rural local governments to ensure that the code addresses the needs of Bowen Island and other similar municipalities.</b></p>
<p>The Municipality will work with the Provincial government, helping to ensure that the green building code addresses the needs of a rural island community. Partnerships will be created with similar rural communities, as well as respected developers, designers and technology providers to work with Bowen Island on a green building agenda. This will help Bowen Island gain key advice and support on green building projects within the community.</p>
<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Meeting with Province</b> – The municipality could meet with the lead team on the Green Buildings initiative at the Province to exchange information and lobby for green building directions for the code. Local developers and builders might be invited to participate.</li> </ul>
<p><b>3.4 The Municipality will pursue research on appropriate green buildings to fit within the Bowen Island context, providing education and direction to the community.</b></p>
<p>The Municipality will focus on developing green building practices that are well suited to the context and character of the Island. Research into specific practices for rural areas, green building retrofits to existing single-family homes, and appropriate green building types for mixed use village centres is essential to developing green building standards that meet the needs of a unique island community.</p>
<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Rural Lot Pilot Project</b> – Consider a pilot project for an off-grid green home, including water recycling, zero waste goal, sustainable material use, renewable energy, etc.</li> <li>• <b>Home Retrofits</b> - Initiate a residential home green retrofit program by providing education about existing programs, support and partnerships.</li> <li>• <b>Green Building Leadership Council</b> – Consider establishing a green building leadership council of developers and builders on the Island to work together and advise Council and staff on how best to support green buildings on the Island. This group could work with local building material suppliers to offer green materials and technologies and could promote educational information to Bowen residents on greening their homes.</li> </ul>
<p><b>3.5 The Municipality will adopt green building standards and practices in the construction and operation of all municipal facilities.</b></p>
<p>The Municipality will adopt a green building standard for all civic facilities to stimulate learning in the local government, as well as in the design and development community that builds civic facilities. Green municipal facilities will provide leadership on green buildings throughout the island and the</p>

region.

**Potential Early Projects**

- **Municipal Building Retrofits** - Retrofit existing municipal buildings to meet sustainability targets through various means, possibly including energy audits and retrofits.
- **Municipal Centre Pilot Project** – Designate the future municipal building for a green building pilot project (per the Strategic Sustainability Framework for the Surplus Lands report, a LEED Gold standard with specific energy and water requirements is recommended).
- **Financial strategy** – Develop a financial strategy to support green buildings standards e.g. explore ways to link capital budget with operating budget such as charging an internal GHG offset and using it to pay for internal retrofits, then to support incentives.

**3.6 The Municipality will pursue the development of financing strategies to support green buildings – new and retrofits**

The Municipality will commence work with its committees and the development and finance industries to create strategies to address financial aspects of green buildings including green loans for energy efficient buildings (new/retrofits), capital vs. operating budget management for green public facilities, and others.

## Strategic Direction #4

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### Protect and Enhance the Landscape to Support Ecology, Recreation, and Resources

As a rural island municipality in Howe Sound, Bowen Island has an extraordinary natural environment. This has provided resources to support forestry, agriculture, and fisheries; and now forms the essential draw for most tourists. It is also a retreat in which islanders can connect with the environment – as evidenced by their strong commitment to sustainability and concern for environmental protection. The island has significant forested Crown land, a number of large parks, an ecological reserve and protected ALR lands. Hiking trails access peaks of Bowen's mountains and its major lakes. Bowen's open spaces are perhaps its most valuable asset.

Conventional development patterns in keeping with OCP designations largely subdivide much of the island into a patchwork quilt of small (1-4 ha) private parcels connected by a major transportation network. Depending on how development occurs on these parcels, this approach would break up large tracts of contiguous natural forest, possibly interrupting surface hydrology and essential wildlife territories.

Residential development is, by and large, most dense along its shorelines, potentially placing significant pressure on coastal and marine environments, and possibly risking impact from sewage, pesticide, and fertilizer runoff.

Much of the land on Bowen is private and currently zoned for low-density development. These development rights must be respected but at the same time, more sustainable development patterns need to be pursued. Densification of village centres in lieu of further rural development would reduce these pressures, but would present significant challenges regarding private development rights currently in existence.

#### Strategic Goal

**The protection and enhancement of Bowen Island's landscape is critical to its future as a sustainable community. The Municipality envisions an open space network that assures the provision in perpetuity of:**

- ***A healthy, attractive and resilient ecosystem;***
- ***Recreational opportunities for residents and tourists; and***
- ***Viable and sustainable local production of agricultural, fish, timber and other resources.***

#### Directions for Action

<b>3.1</b> <b><i>The Municipality will develop a green space plan that balances community needs, including conservation, agriculture, biodiversity, forestry, and recreation.</i></b>
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A comprehensive green space plan ensures that natural spaces within the community are preserved and restored, with consideration to the diversity of community values that are met by open space. The plan will look at strategies to provide multiple benefits that include:

- Vegetation to clean waterways and improve air quality;
- Green space to enhance health and wellness of residents;
- Local food production;
- Habitat for wildlife; and
- Designated areas for sustainable forestry practices.

**Potential Early Projects**

- **Open Space Inventory** - Develop an inventory of natural resources on Bowen Island.
- **Community mapping** – a project to map local ecosystems, recreational uses and other land uses could be undertaken where the community imparts their “local knowledge” into a map format to form the basis of future land planning.

**4.2 The Municipality will develop a strategy to protect biodiversity on the island.**

The Municipality will develop a biodiversity strategy to preserve and enhance natural habitat for plants and animal species on Bowen Island. A biodiversity strategy for Bowen Island may include an inventory of species on Bowen Island; mapping of significant habitat areas/corridors and their connectivity to other sites in the region; restoration plans for degraded areas; and habitat enhancement on development sites. Much of this information already exists for the Island in various forms and could be drawn together to get started on this plan. The biodiversity objectives need to be integrated and balanced with the many other important objectives for the Island as a sustainable community.

**Potential Early Projects**

- **Invasive Species** - Develop a comprehensive action plan for the control of invasive species. This plan would include a plant inventory and a removal scheme. This plan will focus on sensitive local ecosystems.
- **Sensitive Areas Plan** – Develop a clear sensitive areas map for the Island according to strong scientific criteria and address rigorous development requirements for these areas as a condition of development approvals to ensure sensitive environments are preserved.
- **Biodiversity Committee** – A group could be established (new or in partnership with existing environmental groups) to map and offer advice to the Municipality and developers on how best to preserve or enhance the Island’s biodiversity. This group could also help coordinate work on community landscape mapping.

**4.3 The Municipality will endeavor to preserve and restore ecologically sensitive areas and open space, including the protection of key crown lands.**

Ecologically sensitive areas on Bowen Island will be protected from the pressures of further development on the island. These areas will be identified and protected through

<p>the Island's green space plan.</p>
<p><b>4.4</b> <i>The Municipality will develop and adopt landscape design guidelines that consider the impacts of climate change, and restore habitat for local and regional species.</i></p>
<p>Sustainable communities go beyond environmental protection, to implementing environmental restoration where possible. It is important to consider the coming impacts of climate change when engaging in ecological restoration. Climate change adaptive strategies include xeriscaping and native plantings to increase the resilience of ecosystems.</p> <p>The provision of planting design guidelines for public and private spaces can greatly enhance the ecological value of the community. Bird habitat has been established by several studies to be an indicator for healthy ecosystems. If songbird habitat is provided in developed areas, it will also provide habitat for butterflies, other key insects and small mammals.</p>
<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Plant guidelines</b> – Develop or adapt existing (from other sources) municipal native plant landscape guidelines.</li> <li>• <b>Songbird habitat</b> – Implement landscape design guidelines for songbird habitat in Snug Cove Village Centre.</li> <li>• <b>Demonstration garden</b> - Create a demonstration garden project for Naturescape gardens in Snug Cove Village Centre.</li> </ul>
<p><b>4.5</b> <i>The Municipality will carefully consider open space design to enhance the diversity and quality of recreational opportunities for all residents.</i></p>
<p>A recreational open space design strategy will allow a greater integration and flexibility of activities within the public realm. An enhanced use of open space encourages multiple uses and better use of the public investment in the Island's parks.</p>
<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Community Play Spaces</b> - Develop community play spaces for children, particularly in multi-family areas.</li> <li>• <b>Recreational survey</b> – Conduct a survey (even informal) of the recreation needs and desires of residents and visitors to begin the planning for a robust “play-on-the-island” strategy.</li> </ul>
<p><b>4.6</b> <i>The Municipality will continue to protect agricultural land and explore ways to increase local food production.</i></p>
<p>The industrialized production, storage manufacture, packaging and transportation of food are significant contributors to energy consumption and emissions both locally and globally. As North America faces the cycle of peak oil in the next several decades, the food supply expectations will change due to its current dependence on petroleum sources for equipment, fuel, fertilizer, chemicals, processing, transport and storage. Local food production and distribution will support sustainability goals, as well as having many other positive benefits. Developing an urban agriculture strategy is an effective way to address</p>

this challenge.

**Potential Early Projects**

- **Agriculture Strategy** – Develop a Bowen Island Agriculture Strategy that outlines the potential for local food protection, including identifying productive agricultural land that may not be currently protected within the ALR.
- **Food Security** - As part of a community agriculture strategy, initiate a program to inventory/map the current and future food security issues and opportunities within the community.
- **Snug Cove Productive Landscape** - Include a site in Snug Cove Village Centre to explore how productive (edible) landscapes can be woven into new development in the community. Ideas from the SEFC Olympic Village urban agriculture strategy can be easily adapted.
- **Food Production Incentives** – Provide incentives for local food production on the agricultural land.
- **Agricultural Inventory** – Create a database of agricultural practices that are well suited to Bowen Island (e.g. vegetable and fruit varieties compatible to local growing conditions).
- **Agricultural Advisory Committee** – Establish an agricultural advisory committee to explore opportunities to increase local food production on Bowen Island to be the lead on educating and promoting food production and a strong culture of local food.

**4.7 The Municipality will encourage small-scale food production opportunities in Village Centres such as providing space for community gardens in new developments.**

Community garden spaces can be fit into areas around existing play areas, adjacent sidewalks, and around planted areas of trees and shrub beds. Community gardens should be primarily targeted for multi-family areas.

**Potential Early Projects**

- **Demonstration Community Garden** - Develop a demonstration community garden area for educational purposes and to enhance social programs such as providing food to local food banks in harvest season (eg: small apple orchards).
- **Community Gardens** - Implement a community garden program in multi-family areas, including promotion, education and financial support. Identify locations on municipal property that could support a community garden.
- **Farmer's market** - Explore opportunities to develop a permanent space for a farmers' market in Snug Cove Village Centre.

## Strategic Direction #5

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### Design Infrastructure to be Efficient, Effective and Restorative

Bowen Island has primarily rural infrastructure, typically:

- water is supplied from wells or surface water, sometimes through community water systems; it is usually disposed of via septic fields (except in Snug Cove);
- run-off is managed through road ditches, and on residential properties it is returned to groundwater;
- solid waste is sent off-island to the GVRD, and recyclables are recycled at a central depot; they represent about 30% of the total solid waste by weight;
- energy is primarily electrical, with some heating provided by fuel oil and other non-renewables; wood is often used as a supplementary heat source; and
- there is little in the way of advanced telecommunications infrastructure, especially outside of Snug Cove.

Rural infrastructure places most of the costs of infrastructure on the homeowner, as well as responsibility for system maintenance and operation. As such it relies on responsible owners and capable supporting regulators and technical assistance for good, safe function. Economic hardship or poor capacity of owners, however, can result in poor maintenance and therefore failure of systems, with environmental consequences.

Distributed energy infrastructure such as solar water heating, geexchange heat, etc. is in keeping with this rural context, and space available in rural properties, along with the cost of conventional alternatives in this setting makes this an attractive option. Displacing inefficient electrical heating infrastructure and heating with renewable alternatives is an attractive and likely a competitive option here.

Solid waste is significantly dependent on factors outside of municipal control but represents a major environmental impact and lost resource. In particular, compostable materials represent a resource that can be captured and reused locally.

Treatment of liquid waste is another point at which a substantial resource is lost in the form of recoverable nutrients; recovering these nutrients may also minimize risks to the environment while permitting rapid recharge of groundwater and/or surface water.

### Strategic Goal

**The Bowen Island Municipality envisions the energy, water and waste management infrastructure on the Island to meet sustainability objectives through low to no impact systems, enhanced recovery of resources from infrastructure systems, decreased environmental risks, primary reliance on local, renewable energy in rural areas, and the use of highly efficient shared infrastructure systems in village centres.**

The Bowen Island Municipality also envisions development of infrastructure supportive of a decreased need to travel, such as advanced telecommunications infrastructure, allowing typical residents to work from home more easily.

## Directions for Action

Energy Systems	
<b>5.1</b>	<b><i>The Municipality will develop an energy and emissions plan to reduce energy consumption, increase the role of renewable energy, and reduce air and Greenhouse Gas emissions.</i></b>
	<p>A formal energy and emissions strategy for the municipality will enable it to address - in an integrated, community-wide process - its energy needs, associated emissions and opportunities for renewable energy supplies. This plan will form a foundation for future work on energy and emissions, providing baseline and performance tracing to sustainability goals, as well as other goals regarding fuels. Bowen already has a baseline completed for its emissions and plans and actions emerging to reduce emissions.</p> <ul style="list-style-type: none"><li>▪ This updated plan an include addressing the following:<ul style="list-style-type: none"><li>• an air quality management plan for additional benefits;</li><li>• telecommunications infrastructure for business on-island and for telecommuting;</li><li>• an investigation of district energy systems for the village centre;</li><li>• internal organization regarding project objectives, evaluation, and planning to support the integration of different systems; and</li><li>• working with the GVRD on solid waste.</li></ul></li></ul>
	<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"><li>• <b><i>Feasibility Study</i></b> – The Municipality can undertake a feasibility study on alternative infrastructure projects before proceeding with an action plan in this area.</li><li>• <b><i>Energy Education</i></b> – Develop an education program for residents and developers on energy conservation strategies and on renewable energy systems that might apply to their homes or businesses.</li></ul>
<b>5.2</b>	<b><i>The Municipality will consider a Neighborhood Energy Utility (NEU) strategy to support the development of a renewable energy system in the Snug Cove Village Centre.</i></b>
	<p>The development of a Neighbourhood Energy Utility (NEU) system can be an effective method to provide renewable energy sources to new developments in a commercial centre as well as possibly financing energy efficiency measures in some cases. These systems and the utility organizations that manage them offer significant opportunities for cost/revenue sharing with the development industry to support residential developers to</p>

<p>pursue increased energy efficiency. An effective renewable district energy system can increase energy efficiency by well over 50% in many cases, while providing local economic development. The municipality can establish the utility and form a partnership with an existing utility to assist in managing, financing and operating the utility.</p>
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b>Utility Opportunities</b> - Hold a workshop with experts to discuss the opportunities for a Neighbourhood Utility in Sung Cove Village Centre.</li> <li>• <b>Utility Partnership</b> – Explore utility partnerships between Bowen Island and utility providers.</li> </ul>
<p><b>5.3 The Municipality will launch a “micro green energy” initiative focused in rural areas, promoting the use of on-site renewable energy systems such as solar PV, solar HW, small-scale wind, geo-exchange and others.</b></p>
<p>There are many opportunities for micro-energy systems for renewable energy that can be integrated into building and site designs. The Municipality’s rural setting is well suited to micro-energy systems and the technology will be promoted through building design guidelines and community education. The municipality will also explore ways to incorporate small solar-energy systems (such as parking meters and street lighting) within the community.</p>
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b>Micro Green Energy Training</b> –Develop a micro green energy training program for construction trades along with a requirement for building permit submissions to demonstrate how renewable energy is being considered in building designs. Consider creating an information package for developers as part of the permitting process.</li> <li>• <b>Micro energy fair</b> – Consider hosting a fair of technology and suppliers on the Island for micro-energy systems (solar hot water (eg: Taylor Munro), solar PV, geo-exchange, others) to provide residents and opportunity to learn about them.</li> </ul>

<p><b>Telecommunications Systems</b></p>	
<p><b>5.4 The Municipality will investigate opportunities to expand and enhance telecommunications infrastructure on Bowen Island.</b></p>	<p>Telecommunications systems are an important tool in reducing commuter trips between rural settlements and urban centres. Decreasing the number of commuter trips to and from Bowen Island will contribute to reducing energy consumption and emissions.</p>

## Water and Liquid Waste Management Systems

### **5.5 The Municipality will promote water conservation and health.**

The conservation of water not only saves water resources, but also saves energy, particularly where hot water is concerned. Water efficiency requires proactive initiatives for buildings, landscape irrigation, agriculture and commercial/industrial processes. The Municipality will work to develop and expand conservation measures.

#### **Potential Early Projects:**

- **Water Metering** – Promote water metering for all new development and retrofitted over time for existing development on municipal water supply and community water systems to encourage conservation.
- **A Bowen Water Conservation Package** – Consider building a “Bowen Water Conservation Package” for residents and businesses and selling them to residents at a slightly subsidized rate, including faucet and shower aerators, hot water insulation blankets, etc.
- **Landscape design guidelines** – Consider adapting water efficient landscape design guidelines and plant lists (eg: City of North Vancouver) to Bowen and making them widely available, especially to new development projects and homeowners.
- **Wastewater pollutant education** – Provide education on the implications of what gets flushed into the waste water system (eg: toxic cleaners, pharmaceuticals, others) and possibly work with the schools to launch a campaign of keeping Bowen’s water clean.

### **5.6 The Municipality will support reliable on-site treatment of wastewater, allowing its return to groundwater when treated, and possibly its re-use where appropriate.**

While the majority of Bowen is on septic systems, village centres are and will be on sewage systems. Many opportunities exist for treatment and re-use of water in specific applications, including buildings, irrigation, agriculture, and others. This initiative will require a feasibility study to identify opportunities, pilot projects and possibly changes to regulations.

#### **Potential Early Projects:**

- **Living Machine** - Explore a pilot project for a living machine / Solar Aquatics waste water treatment facility in Snug Cove Village Centre to serve as a both infrastructure treatment and educational attraction.

### **5.7 The Municipality will develop a stormwater management plan, focused on impacts on streams and fish habitat, and opportunities for irrigation of landscaped areas.**

Innovative and coordinated storm water management plans address issues such as cross-contaminants, street design, and urban water features as public art or recreational space. In addition to protecting water quality, a storm water management plan can also provide an opportunity to increase the diversity and quality of community green spaces and urban wildlife habitat.

	<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b>SEA Guidelines</b> - Implement guidelines for “street edge alternatives” (SEA): curbless streets, swales, rainwater infiltration, urban forestry, and permeable surfaces. Develop these through a workshop format including gathering the extensive research done by others on these ideas. (as in section 2.8) The surplus lands and snug cove planning process could be an early opportunity to explore alternatives.</li> <li>• <b>Bio-swales</b> – Consider bio-swales to treat run-off from the Snug Cove ferry parking lot.</li> <li>• <b>Rainwater Gardens</b> - Consider rainwater gardens in public spaces in Snug Cove to manage stormwater in an ecologically friendly manner.</li> <li>• <b>Public Art</b> – Consider opportunities to integrate water management into public art projects, possibly including the village centre project.</li> </ul>
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<b>Solid Waste Management</b>	
<b>5.8</b>	<b><i>The Municipality will develop a sustainable solid waste management plan and adopt a goal for zero waste by 2030.</i></b>
	<p>The Municipality will promote subscription to a Zero Waste by 2030 initiative. While “zero production of waste” is definitely a “reach goal” it will serve as an important focus for innovation and creativity in waste management. The Zero Waste goal will drive an update to the solid waste management plan.</p>
	<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b>Zero Waste Workshop</b> – Hold a workshop on the Zero Waste movement, developing ideas and initiatives.</li> <li>• <b>Zero Waste Strategy</b> – Integrate a Zero Waste by 2030 strategy into existing waste management plans.</li> <li>• <b>Plastic Reduction</b> – A community initiative to reduce the use of plastic bags.</li> <li>• <b>Business workshop</b> – Hold a workshop with Bowen businesses to discuss ways to reduce waste and enhance product stewardship practices.</li> </ul>
<b>5.9</b>	<b><i>The Municipality will develop building design guidelines to require 3-stream separation in all new buildings (recyclables; organic waste; garbage).</i></b>
	<p>The Municipality will develop building design guidelines to require 3-stream separation facilities in all new buildings (garbage, recyclables, compostables) to ensure buildings are prepared for future capacity to promote waste reduction and meet a zero waste goal.</p>
	<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b>Municipal Recycling</b> – Investigate the feasibility of municipal pick-up for recyclables in some areas of the Island.</li> <li>• <b>Composting Subsidy</b> – Explore the extent of compostables in the waste</li> </ul>

stream and if it is significant, consider initiating a subsidized compost bin program, possibly with the support of the GVRD.

- ***On-Island Composting*** – Explore the feasibility of an on-island compost facility that could turn compostable waste into a resource.

# Strategic Direction #6

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## Build a Strong Community

Bowen Island has a sense of identity and place many communities would be proud of – a sense that is enhanced by the nature of Snug Cove as a central intersection point and by the clearly identifiable edges of the island. However, the community has a number of challenges:

- As a small rural community, health care support is limited and is unlikely to be improved markedly without a significant increase in population to support enhanced services.
- The island is not a very ethnically diverse community, which could potentially lead to concerns about exclusion – noting these have not been raised to date.
- Youth are not often part of community dialogues, and sometimes feel they have limited options for recreation on the island.
- With an aging demographic, accessibility for seniors living in rural locations may soon become a major issue in terms of safety and personal isolation.
- Equity has the potential to become a major issue – with increasing income disparity between residents able to afford homes and those who are employed in the relatively low-paying service sector.
- Education is a mix of off-island high schools and private (high school) and public (primary school) on-island schools.

### Strategic Goal

**Bowen Island envisions itself as an inclusive, equitable, healthy and vital community with a strong identity as rural islanders and a strong culture of sustainability.**

### Directions for Action

<b>6.1</b> <i>The Municipality will promote community identity and pride through place-making, ensuring that development reflects Bowen Island's unique community character.</i>
New developments will reflect the spirit of the community through elements such as culture, heritage, local materials, and geography. Unique public design will encourage community pride, as well as increase tourism in the area.
<b>Potential Early Projects:</b> <ul style="list-style-type: none"><li>• <b>Public art</b> - Develop requirements for public art in all new developments, possibly with encouragement for Bowen Island artisans to be selected as the artists.</li><li>• <b>Universal Design</b> – Ensure that universal design principles (design for all ages and mobility) are included in designs.</li><li>• <b>Snug Cove Public Realm</b> – Ensure that new development in Snug Cove has a highly developed public realm that contributes to the community through providing unique public spaces.</li></ul>
<b>6.2</b> <i>The Municipality will create community engagement and build social capital</i>

<p><b><i>through events and festivals.</i></b></p>
<p>Community events and festivals bring residents together, helping to maintain a high level of social engagement within the community and raising awareness around specific issues. The Municipality will focus on holding events that strengthen and increase the value of social networks within the community.</p>
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b><i>Performance Space</i></b> - Consider including an outdoor performance space in Snug Cove Village Centre to host artistic and cultural events in the heart of the community.</li> <li>• <b><i>The Bowen Year</i></b> – Consider gathering the more informal events throughout the year into a more formal “the year on Bowen” initiative and consider economic development opportunities strategically for how to leverage this list of annual events into higher visibility for the Island where appropriate.</li> <li>• <b><i>Community story telling and identity building</i></b> – Consider an initiative to begin to capture stories from Bowen residents about the island and what is unique about it, and make these available through various means to begin to build a shared “story” and identity for the Island.</li> </ul>
<p><b>6.3 <i>The Municipality will continue to steward strong partnerships and cultural connections within the community.</i></b></p>
<p>The Municipality will continue to build partnerships that allow the community’s various cultural or social groups to make contributions towards community goals, as well as to raise awareness about their unique perspectives and needs.</p>
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b><i>Sister Municipalities</i></b> – Consider opportunities to partner with a “sister municipality” (or island) in a developing country.</li> <li>• <b><i>Micro Community Centres</i></b> – Consider rezoning to permit small, neighbourhood-scale community centres or key spaces as a network in various parts of the island.</li> </ul>
<p><b>6.4 <i>The Municipality will develop relationships with educational and research facilities.</i></b></p>
<p>The Municipality will advance sustainability goals through innovative partnerships with educational organizations such as Capilano College and UBC. These partnerships will provide the community with a wide variety of benefits such as community learning opportunities and economic benefits. The students in these institutions may be able to support municipal staff in research and programs, such as tracking sustainability performance using indicators tied to these strategic goals.</p>
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b><i>Educational Partnerships</i></b> – Engage academic institutions on specific sustainability issues and goals.</li> </ul>
<p><b>6.5 <i>The Municipality will enter into a dialogue with the Province on the population needed to support a more substantial healthcare facility with a broad range of services.</i></b></p>

<p>The current range of healthcare services on Bowen Island may be expanded to consolidate and increase the number of services available to residents.</p>
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b>Medical Clinic</b> – Examine the feasibility of establishing more comprehensive medical services on Bowen Island, e.g. as an integrated health care clinic.</li> </ul>
<p><b>6.6 The Municipality will develop a youth engagement policy/strategy to inform all planning processes.</b></p>
<p>Youth engagement on Bowen Island will allow youth to take part in planning for the future of their community. Many young people are leaving Bowen Island for communities with a greater diversity of activities and communities. Input from Bowen Island’s youth will help to ensure that they remain engaged with their community and will offer the municipality with a different perspective on planning issues.</p>
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b>Youth Council</b> – Establish a Bowen Island Youth Council that provides input on planning processes for council and community consideration.</li> </ul>
<p><b>6.7 The Municipality will examine the needs of service sector employees for housing and other community activities and services. (Also see Section 1.5)</b></p>
<p>Affordable housing is essential for Bowen Island, ensuring that it is a community with diverse age groups and incomes, and that employees have reasonable access to accommodation on the island. Housing diversity and affordability is particularly important for rural communities that are in proximity to a major urban centre, as they often face the risk of becoming dominated by wealthy second homeowners.</p>
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b>Affordable housing research initiative</b> – Extensive work is being undertaken across BC on affordable housing. Consider hiring an internship student or others to compile this research and present its potential value to Bowen Council and residents.</li> </ul>

## Strategic Direction #7

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### Maximize Value, Equity, and Positive Impacts of Economic Activity

Bowen Island's economy is a small component of the GVRD economically because it is fairly dependent on off-island economic generators. Most people are employed off-island, and those employed on-island work primarily in service sector jobs, or in jobs (e.g. construction and automotive supply) that support those who work (or have worked) off-island. Key exceptions include tourism operators, who depend on the Island's attractive character as a local resource, artists, and any remaining resource harvesting jobs.

Those who live on Bowen have, in the last 5-10 years, faced rapidly rising cost-of-living as housing prices have risen. Currently, the only prevalent non-single-family housing type on Bowen is secondary suites; however, this supply may be mismatched with rising employment demands in the service sector. This presents a potential risk to the economy, as employers must look elsewhere for employees, who in turn may have to commute long distances to work.

Because many community members are employed off-island, and most drive to work, households are vulnerable to significant increases in energy-related transportation costs. In turn, if more efficient transportation is not developed, the community's income may be threatened as potential employees have a hard time competing for a job with others who have lower income needs.

Bowen's unique tourism resources are well protected in some but not all cases. In particular, highly visible Crown land on Bowen's peaks may be vulnerable to resource extraction, with little community control over aesthetic quality or impacts on water supply and quality – which in turn affect population capacity (as noted earlier).

The flip side of that issue is that these same Crown lands, and similar private lands areas, are good potential resources for forestry. However, they are not secured for that use, and/or the community has not yet positioned itself to maximize local value from forestry on these lands, including ensuring that they support consistent, long-term resource extraction and ecosystem health.

Viable agricultural land is not being farmed because rural landowners use their properties as retreats rather than as working farms. The subdivision of land has also constrained the ability to farm by raising land values and breaking up properties into pieces that are often too small to farm commercially.

#### Strategic Goal

**The Municipality envisions a Bowen Island economy that is relatively diverse, highly efficient, supports community equity and diversity, and maximizes long-term economic stability and value (economic, community, and environmental) from local on-island resources.**

Achievement of this goal will maximize the long-term prosperity of the whole community, minimize impacts on the planet as a whole, and help to minimize its vulnerability to external threats.

#### Directions for Action

Action
<b>7.1 The Municipality will incorporate sustainable development objectives explicitly into economic development strategies.</b>

Many communities pursue economic development and sustainable development in an entirely independent manner, often unfortunately resulting in the two working against each other. Bowen Island is committed to ensuring that all economic development promotion occurs in the context of a clear commitment to increased performance on sustainability objectives.

**Potential Early Projects:**

- **Economic Strategy** - Create a sustainable economic development strategy. This could be started with a workshop and brainstorm of ideas in many categories.
- **Services inventory** - Develop an inventory of both existing and preferred services/amenities on the island. Highlight economic opportunities that make fit with Bowen Island’s character. Ensure this list of businesses has “visibility” for Island residents to encourage local shopping and services.
- **Mixed Use Commercial Development** – Allow for and encourage a unique mix of commercial uses in Snug Cove (e.g. artisan, light industrial, etc) where appropriate.
- **Economic Incentives** – Hold a workshop to discuss what types of incentives Bowen Island provides to business owners considering an enterprise on the island.
- **Buy Local Celebration** - Hold a “Buy Local” celebration to enhance awareness of local businesses and the benefits of buying local. Consider additional ways to highlight local goods and services.

**7.2 The Municipality will promote green business leadership and practices, in addition to providing assistance, support, tools and programs.**

The Municipality will develop an organizational strategy for itself comprised of “green organizational/corporate practices” and use them as the platform from which to encourage businesses to do the same thing. The Municipality will make a request to expert organizations to deliver a range of energy efficiency programs for businesses including energy audits, facility retrofits, green fleets programs, and others.

**Potential Early Projects:**

- **Green Business Guidelines** – Develop a list of green business practices to use within city facilities and to recommend to Esquimalt businesses.
- **Green Office Facilities** – Develop a green office building to increase available office space on the island.
- **Educational workshop** – Consider hosting an educational workshop on Bowen with special speakers telling the story of how they “greened” their businesses (possibly from businesses such as Mtn Equip Coop, others).

**7.3 The Municipality will identify and secure viable agricultural lands, and identify and protect likely future agricultural lands by limiting subdivision and inappropriate uses in these areas.**

Protecting future agricultural lands and planning for local food production will be integral to a sustainable economic future on Bowen Island. See Section 4.6 for additional details.

**7.4 The Municipality will explore an Integrated Business / Eco-Industrial Network (EIN) strategy.**

A key emerging movement in sustainable communities and economic development is that of industrial ecology, or eco-industrial networking (EIN). These approaches look at the resource systems and flows in a community in an integrated way (integrated infrastructure) and find ways to close loops and increase efficiency, as well as to turn wastes into resources within the community. The Municipality will explore and work on developing an EIN strategy for the community in order to maximize energy and resource efficiency through integrating the waste and resource flows of new and existing businesses on the Island.

**Potential Early Projects:**

- **EIN Workshop** - Hold a forum or workshop on the resource needs of businesses in the community and explore how an eco-industrial approach could increase efficiency and innovation.
- **Compost Project** – Evaluate the opportunity to use compost as a soil enhancement for forest and agricultural land on Bowen Island.
- **Resource** – [www.ecoindustrial.ca](http://www.ecoindustrial.ca)

## Strategic Direction #8

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### Apply Progressive and Integrated Management

The Bowen Island Municipality has, since its inception, involved members of the community considerably in decision-making, through initiatives such as working groups, as well as broader involvement in large decision-making processes. The community contains a number of strong stakeholder groups, and members possess significant skills and knowledge, enabling them to make valuable contributions to important decisions.

“Sustainability is both a journey and a destination”<sup>4</sup>, and reaching the destination will involve significant change at a personal, community, regional and global level. Therefore, one of the most critical issues communities face is how to effectively talk through and embrace that change together. A second, equally important issue is managing within the Municipal organization to facilitate appropriate changes while ensuring limited resources are spent wisely.

Finally, dealing with aspects of sustainability that lie beyond municipal or community control requires building of coalitions and partnerships, strong advocacy of critical senior government actions, and other similar work to encourage large-scale change that is essential to making sustainable lifestyles and businesses possible locally.

### Strategic Goal

**The Bowen Island Municipality envisions itself as a leader in sustainability, through community engagement, internal management, and collaboration with other organizations and levels of government to break down systemic barriers to sustainable change. Building on its skills and expertise in sustainability, it is committed to integrating social, economic and environmental goals through every level of the organization, producing powerful initiatives in support of a sustainable future.**

### Directions for Action

Action
<b>8.1 The Municipality will consider sustainability objectives in relation to all areas of community development and management.</b>
Bowen Island will ensure that sustainability issues such as adaptation to climate change, energy shifts, water management and many others are addressed as part of its decision making processes.
<b>Potential Early Projects:</b> <ul style="list-style-type: none"><li>• <b>Sustainability checklist</b> – Consider developing a simple sustainability issues checklist for use during municipal decision making to trigger thought and ideas on how to integrate sustainability objectives into staff and Council decisions.</li></ul>
<b>8.2 The Municipality will develop institutional knowledge and systems to “mainstream”</b>

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<sup>4</sup> New Zealand Parliamentary Commissioner for the Environment, 2004

<b><i>sustainable development through integration into all municipal activities.</i></b>	
<p>Bowen Island will establish organizational systems to ensure sustainability goals are integrated into the day to day activities of all staff. This will include policies, protocols, and reporting systems that address sustainable development issues relevant to the community. This initiative will take time but will yield long term benefits to the Municipality.</p> <p>Most sustainable development solutions require integration of perspectives across departments and from the top of the organization to the bottom. Efficient and effective systems that achieve this objective heighten understanding, foster ownership and strengthen implementation. The Municipality will consider the placement of a temporary sustainable development coordinator to establish and solidify the new systems in place to meet sustainability goals.</p>	
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b><i>Temporary Sustainable Development Coordinator</i></b> – Consider developing a temporary position for a sustainable development coordinator to establish new systems related to sustainability.</li> <li>• <b><i>Refine Organizational Systems</i></b> – Identify efficient and effective structures and processes that enable sustainability and corporate and community priorities to be aligned. This process examines opportunities top down, bottom up, horizontally across departments, and inside out (local government-to-community).</li> </ul>	
<b>8.3</b>	<b><i>The Municipality will implement a dialogue with the community and stakeholders over time to build awareness and support for sustainability throughout the Island.</i></b>
<p>A sense of participation for residents is important when Bowen Island is pursuing changes associated with becoming more sustainable. The municipality will also need the intellectual, financial and social capital of the community to genuinely advance sustainability. The Municipality will implement, over time, a dialogue with the residents and businesses of Bowen Island to co-create a vision and commitment to becoming a sustainable community.</p> <p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b><i>Key Community Stakeholder Body</i></b> – Consider developing a council-community body advised by staff that harnesses the intellectual, financial and social capital of key community stakeholders.</li> </ul>	
<b>8.4</b>	<b><i>The Municipality will work to build regional, national, and international partnerships in order to work together towards sustainability goals.</i></b>
<p>Bowen Island will explore partnerships that will both enhance local sustainability initiatives and contribute to national or global issues. These partnerships may be utilized to enhance community elements such as cultural awareness, tourism, and social equity.</p>	
<p><b>Potential Early Projects:</b></p> <ul style="list-style-type: none"> <li>• <b><i>Dialogue between Municipalities</i></b> - The Municipality should consider engaging in open dialogue with other communities in the region to share experiences, ideas and tools on addressing sustainable development, and to harmonize activities within the GVRD.</li> </ul>	

**8.5 The Municipality will develop a reporting process to track and report on its progress on sustainability.**

The Municipality will explore methods for reporting on its sustainability initiatives and performance in a manner that residents can easily see, that can be readily updated and that does not create an onerous workload.

**Potential Early Projects:**

- **Reporting method exploration** – Consider scoping sustainability reporting methods, including inviting Visible Strategies to present their sustainability reporting system – SEE-IT.

## Summary of Potential Early Projects

<p><i>Strategic Direction 1</i></p> <p><b>Combine Rural Character with Strong Village Centres</b></p>	<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Snug Cove Village Project</b> – Enhance and strengthen Snug Cove as the Island’s primary mixed-use village centre.</li> <li>• <b>Community Round Table</b> – Set up community round table discussions on the costs and benefits of increased density in some areas.</li> <li>• <b>Presentations</b> – Invite experts on density and mixed-use development to give educational presentations within the community.</li> <li>• <b>OCP Review</b> – Review and update the OCP, integrating sustainability goals.</li> <li>• <b>LUB Review</b> – Review and update the Land Use Bylaw, integrating sustainability goals.</li> <li>• <b>Village Centre Feasibility Study</b> – Undertake a triple-bottom-line feasibility study for a mixed-use node on an appropriate site(s) on the west side of the island.</li> <li>• <b>Mixed Use Multi-family Pilot Project</b> – Consider implementing a pilot project for a mixed use, multi-family development.</li> <li>• <b>Affordable housing</b> – Develop a policy that integrates affordable housing options into new development projects.</li> <li>• <b>Live/work</b> - Consider including live/work spaces in Snug Cove Village Centre development.</li> <li>• <b>Housing Typology</b> – Create an inventory of appropriate housing types for new development on Bowen Island.</li> <li>• <b>Snug Cove Mixed Uses Plan</b> – Create an inventory of existing and desired services and facilities within Snug Cove Village Centre.</li> <li>• <b>ALR Plan</b> – Develop a plan outlining strategies for highest and best use of agricultural lands on the Island.</li> </ul>
<p><i>Strategic Direction 2</i></p> <p><b>Support Efficient, Effective Transportation</b></p>	<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Community challenge</b> – Implement a GHG reduction community challenge and education program.</li> <li>• <b>Transportation planning</b> – Integrate sustainability and GHG reduction objectives centrally into the Island’s transportation planning.</li> <li>• <b>Tax incentives</b> – Implement a carbon tax and/or tax incentives for ride sharing that can be used to fund alternative transportation options.</li> <li>• <b>Car Co-op</b> – Examine the opportunity for a car co-op on Bowen Island.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Car Share</b> – Develop and sponsor a commuter ride share program.</li> <li>• <b>Biofuels</b> – Explore sources of biofuel feedstock and the feasibility of developing a small biofuel production facility for the Island.</li> <li>• <b>Transit Working Group</b> – Create a transit working group to develop options for practical transit system improvements.</li> <li>• <b>Transit Service Funding</b> – Partial contributions for transit service funded by new developments (e.g. bus passes for occupants of residential buildings).</li> <li>• <b>Pedestrian Ferry</b> – Work with BC Ferries to explore the possibility of a walk-on pedestrian ferry between Bowen Island and the mainland.</li> <li>• <b>Ferry Travel Incentives</b> – Work with BC Ferries to develop incentives for car sharing and pedestrian/cyclist travel on the ferry (e.g. prioritized loading for multi-occupancy vehicles).</li> <li>• <b>Ferry Marshalling</b> – Create a plan for ferry marshalling in Snug Cove that balances the current reality of single-occupancy vehicle use with a movement towards alternative transportation options and sustainable traffic infrastructure (e.g. anti-idling bylaw).</li> <li>• <b>Horseshoe Bay</b> – Work with BC Ferries to create increased access to affordable parking in Horseshoe Bay, encouraging foot passenger travel to Bowen Island.</li> <li>• <b>Bike share</b> - Implement a community bike share program to make bicycles available throughout the community.</li> <li>• <b>Bike storage</b> - Develop and implement a strategy to begin building and offering safe and dry bicycle storage in Snug Cove.</li> <li>• <b>Trail network map</b> – Include a trail network map outlining existing and planned bicycle routes on Bowen Island.</li> <li>• <b>Alternative network workshop</b> – Consider holding a planning workshop to explore the development of a comprehensive set of non-road trails that could support pedestrians, cyclists and small electric vehicles to connect key parts or most of the Island.</li> <li>• <b>SEA Guidelines</b> - Implement guidelines for street edge alternatives (SEA): curbless streets, swales, rainwater infiltration, urban forestry, and permeable surfaces. Develop these through a workshop format including gathering the extensive research done by others on these ideas.</li> <li>• <b>Car free days</b> - Designate car free days on selected streets for holding community events – partner with key community groups to identify these and manage them effectively.</li> </ul>
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<p><i>Strategic Direction 3</i></p> <p><b>Advance Green Buildings Rapidly</b></p>	<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Green buildings for Surplus Lands</b> – The Municipality can promote green buildings in any private developments of Surplus Lands and as part of the Surplus Lands and Snug Cove planning processes.</li> <li>• <b>Multi-family Building Policy</b> - Implement green building policies for multi-family developments.</li> <li>• <b>Green Building Incentives</b> – Establish incentives - such as density bonusing and tax incentives - to encourage developers to adopt green building practices.</li> <li>• <b>Meeting with Province</b> – The municipality could meet with the lead team on the Green Buildings initiative at the Province to exchange information and lobby for green building directions for the code. Local developers and builders might be invited to participate.</li> <li>• <b>Rural Lot Pilot Project</b> – Consider a pilot project for an off-grid green home, including water recycling, zero waste goal, sustainable material use, renewable energy, etc.</li> <li>• <b>Home Retrofits</b> - Initiate a residential home green retrofit program by providing education about existing programs, support and partnerships.</li> <li>• <b>Green Building Leadership Council</b> – Consider establishing a green building leadership council of developers and builders on the Island to work together and advise Council and staff on how best to support green buildings on the Island. This group could work with local building material suppliers to offer green materials and technologies and could promote educational information to Bowen residents on greening their homes.</li> <li>• <b>Municipal Building Retrofits</b> - Retrofit existing municipal buildings to meet sustainability targets through various means, possibly including energy audits and retrofits.</li> <li>• <b>Municipal Centre Pilot Project</b> – Designate the future municipal building for a green building pilot project (per the Strategic Sustainability Framework for the Surplus Lands report, a LEED Gold standard with specific energy and water requirements is recommended).</li> <li>• <b>Financial Strategy</b> – Develop a financial strategy to support green buildings standards e.g. explore ways to link capital budget with operating budget such as charging an internal GHG offset and using it to pay for internal retrofits, then to support incentives.</li> </ul>
<p><i>Strategic Direction 4</i></p>	<p><b>Potential Early Projects</b></p>

**Protect and Enhance the Landscape to Support Ecology, Recreation, and Resources**

- **Open Space Inventory** - Develop an inventory of natural resources on Bowen Island.
- **Community mapping** – a project to map local ecosystems, recreational uses and other land uses could be undertaken where the community imparts their “local knowledge” into a map format to form the basis of future land planning.
- **Invasive Species** - Develop a comprehensive action plan for the control of invasive species. This plan would include a plant inventory and a removal scheme. This plan will focus on sensitive local ecosystems.
- **Sensitive Areas Plan** – Develop a clear sensitive areas map for the Island according to strong scientific criteria and address rigorous development requirements for these areas as a condition of development approvals to ensure sensitive environments are preserved.
- **Biodiversity Committee** – A group could be established (new or in partnership with existing environmental groups) to map and offer advice to the Municipality and developers on how best to preserve or enhance the Island’s biodiversity. This group could also help coordinate work on community landscape mapping.
- **Plant guidelines** – Develop municipal native plant landscape guidelines.
- **Songbird habitat** – Implement landscape design guidelines for songbird habitat in Snug Cove Village Centre.
- **Demonstration garden** – Create a demonstration garden project for Naturescape gardens in Snug Cove Village Centre.
- **Community Play Spaces** – Develop community play spaces for children, particularly in multi-family areas.
- **Recreational survey** – Conduct a survey (even informal) of the recreation needs and desires of residents and visitors to begin the planning for a robust “play-on-the-island” strategy.
- **Agriculture Strategy** – Develop a Bowen Island Agriculture Strategy that outlines the potential for local food production, including identifying productive agricultural land that may not be currently protected within the ALR.
- **Food Security** - As part of a community agriculture strategy, initiate a program to inventory/map the current and future food security issues and opportunities within the community.
- **Snug Cove Productive Landscape** - Include a site in Snug Cove Village Centre to explore how productive (edible) landscapes can be woven into new development in the community.
- **Food Production Incentives** – Provide incentives for local food production on the

	<p>agricultural land.</p> <ul style="list-style-type: none"> <li>• <b>Agricultural Inventory</b> – Create a database of agricultural practices that are well suited to Bowen Island (e.g. vegetable and fruit varieties compatible to local growing conditions).</li> <li>• <b>Agricultural Advisory Committee</b> – Establish an agricultural advisory committee to explore opportunities to increase local food production on Bowen Island.</li> <li>• <b>Demonstration Community Garden</b> - Develop a demonstration community garden area for educational purposes and to enhance social programs such as providing food to local food banks in harvest season (eg: small apple orchards).</li> <li>• <b>Community Gardens</b> – Implement a community garden program in multi-family areas, including promotion, education and financial support. Identify locations on municipal property that could support a community garden.</li> <li>• <b>Farmer’s market</b> - Explore opportunities to develop a permanent space for a farmers’ market in Snug Cove Village Centre.</li> </ul>
<p><i>Strategic Direction 5</i></p> <p><b>Design Infrastructure to be Efficient, Effective and Restorative</b></p>	<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Feasibility Study</b> – The Municipality will undertake a feasibility study on alternative infrastructure projects before proceeding with an action plan in this area.</li> <li>• <b>Energy Education</b> – Develop an education program for residents on energy conservation strategies.</li> <li>• <b>Utility Opportunities</b> - Hold a workshop with experts to discuss the opportunities for a Neighbourhood Utility in Sung Cove Village Centre.</li> <li>• <b>Utility Partnership</b> – Explore utility partnerships between Bowen Island and utility providers.</li> <li>• <b>Micro Green Energy Training</b> –Develop a micro green energy training program for construction trades along with a requirement for building permit submissions to demonstrate how renewable energy is being considered in building designs.</li> <li>• <b>Micro energy fair</b> – Consider hosting a fair of technology and suppliers on the Island for micro-energy systems (solar hot water (eg: Taylor Munro), solar PV, geo-exchange, others) to provide residents and opportunity to learn about them.</li> <li>• <b>Water Metering</b> – Promote water metering for all new development and retrofitted over time for existing development on municipal water supply and community water systems to encourage</li> </ul>

	<p>conservation.</p> <ul style="list-style-type: none"> <li>• <b>A Bowen Water Conservation Package</b> – Consider building a “Bowen Water Conservation Package” for residents and businesses and selling them to residents at a slightly subsidized rate, including faucet and shower aerators, hot water insulation blankets, etc.</li> <li>• <b>Landscape design guidelines</b> – Consider adapting water efficient landscape design guidelines and plant lists (eg: City of North Vancouver) to Bowen and making them widely available, especially to new development projects and homeowners.</li> <li>• <b>Wastewater pollutant education</b> – Provide education on the implications of what gets flushed into the waste water system (eg: toxic cleaners, pharmaceuticals, others) and possibly work with the schools to launch a campaign of keeping Bowen’s water clean.</li> <li>• <b>Living Machine</b> - Explore a pilot project for a living machine wastewater treatment facility in Snug Cove Village Centre.</li> <li>• <b>SEA Guidelines</b> - Implement guidelines for street edge alternatives (SEA): curbless streets, swales, rainwater infiltration, urban forestry, and permeable surfaces. Develop these through a workshop format including gathering the extensive research done by others on these ideas. (as in section 2.8)</li> <li>• <b>Bio-swales</b> – Design bio-swales to treat run-off from the Snug Cove ferry parking lot.</li> <li>• <b>Rainwater Gardens</b> - Design rainwater gardens in public spaces to manage stormwater in an ecologically friendly manner.</li> <li>• <b>Public Art</b> – Consider opportunities to integrate water management into public art projects, possibly including the village centre project.</li> <li>• <b>Zero Waste Workshop</b> – Hold a workshop on the Zero Waste movement, developing ideas and initiatives.</li> <li>• <b>Zero Waste Strategy</b> – Integrate a Zero Waste by 2030 strategy into existing waste management plans.</li> <li>• <b>Plastic Reduction</b> – A community initiative to reduce the use of plastic bags.</li> <li>• <b>Municipal Recycling</b> – Investigate the feasibility of municipal pick-up for recyclables in some areas of the Island.</li> <li>• <b>Composting Subsidy</b> – Initiate a subsidized compost bin program, possibly with the support of the GVRD.</li> <li>• <b>On-Island Composting</b> – Explore the feasibility of an on-island compost facility located in the Village Centre.</li> </ul>
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<p><i>Strategic Direction 6</i></p> <p><b>Build a Strong Community</b></p>	<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Public art</b> - Develop requirements for public art in all new developments.</li> <li>• <b>Universal Design</b> – Ensure that universal design (design for all ages and mobility) is included in place-making.</li> <li>• <b>Snug Cove Public Realm</b> – Ensure that new development in Snug Cove has a highly developed public realm that contributes to the community through providing unique public spaces.</li> <li>• <b>Performance Space</b> - Consider including an outdoor performance space in Snug Cove Village Centre to host artistic and cultural events in the heart of the community.</li> <li>• <b>The Bowen Year</b> – Consider gathering the more informal events throughout the year into a more formal “the year on Bowen” initiative and consider economic development opportunities strategically for how to leverage this list of annual events into higher visibility for the Island where appropriate.</li> <li>• <b>Community story telling and identity building</b> – Consider an initiative to begin to capture stories from Bowen residents about the island and what is unique about it, and make these available through various means to begin to build a shared “story” and identity for the Island.</li> <li>• <b>Sister Municipalities</b> – Consider opportunities to partner with a “sister municipality” (or island) in a developing country.</li> <li>• <b>Micro Community Centres</b> – Consider rezoning to permit small, neighbourhood-scale community centres in various parts of the island.</li> <li>• <b>Educational Partnerships</b> – Engage academic institutions on specific sustainability issues and goals.</li> <li>• <b>Medical Clinic</b> – Examine the feasibility of establishing more comprehensive medical services on Bowen Island, e.g. as an integrated health care clinic.</li> <li>• <b>Youth Council</b> – Establish a Bowen Island Youth Council that provides input on planning processes for council and community consideration.</li> <li>• <b>Affordable housing research initiative</b> – Extensive work is being undertaken across BC on affordable housing. Consider hiring an internship student or others to compile this research and present its potential value to Bowen Council and residents.</li> </ul>
<p><i>Strategic Direction 7</i></p> <p><b>Maximize Value, Maintain</b></p>	<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Economic Strategy</b> - Create a sustainable economic development strategy.</li> </ul>

<p><b>Equity, and Minimize Impacts of Economic Activity</b></p>	<ul style="list-style-type: none"> <li>• <b>Services inventory</b> - Develop an inventory of both existing and preferred services/amenities on the island. Highlight economic opportunities that make fit with Bowen Island’s character.</li> <li>• <b>Mixed Use Commercial Development</b> – Allow for and encourage a unique mix of commercial uses in Snug Cove (e.g. artisan, light industrial, etc).</li> <li>• <b>Economic Incentives</b> – Hold a workshop to discuss what types of incentives Bowen Island provides to business owners considering an enterprise on the island.</li> <li>• <b>Buy Local Celebration</b> - Hold a “Buy Local” celebration to enhance awareness of local businesses and the benefits of buying local. Consider additional ways to highlight local goods and services.</li> <li>• <b>Green Business Guidelines</b> – Develop a list of green business practices to use within city facilities and to recommend to Esquimalt businesses.</li> <li>• <b>Green Office Facilities</b> – Develop a green office building to increase available office space on the island.</li> <li>• <b>Educational workshop</b> – Consider hosting an educational workshop on Bowen with special speakers telling the story of how they “greened” their businesses (possibly from businesses such as Mtn Equip Coop, others).</li> <li>• <b>EIN Workshop</b> - Hold a forum or workshop on the resource needs of businesses in the community and explore how an eco-industrial approach could increase efficiency and innovation.</li> <li>• <b>Compost Project</b> – Evaluate the opportunity to use compost as a soil enhancement for forest and agricultural land on Bowen Island.</li> <li>• <b>Resource</b> – <a href="http://www.ecoindustrial.ca">www.ecoindustrial.ca</a></li> </ul>
<p><i>Strategic Direction 8</i></p> <p><b>Apply Progressive and Integrated Municipal Management</b></p>	<p><b>Potential Early Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Sustainability checklist</b> – Consider developing a simple sustainability issues checklist for use during municipal decision making to trigger thought and ideas on how to integrate sustainability objectives into staff and Council decisions.</li> <li>• <b>Temporary Sustainable Development Coordinator</b> – Consider developing a temporary position for a sustainable development coordinator to establish new systems related to sustainability.</li> <li>• <b>Refine Organizational Systems</b> – Identify efficient and effective structures and processes that enable sustainability and corporate and</li> </ul>

	<p>community priorities to be aligned. This process examines opportunities top down, bottom up, horizontally across departments, and inside out (local government-to-community).</p> <ul style="list-style-type: none"><li>• <b>Dialogue between Municipalities</b> - The Municipality should consider engaging in open dialogue with other communities in the region to share experiences, ideas and tools on addressing sustainable development, and to harmonize activities within the GVRD.</li><li>• <b>Reporting method exploration</b> – Consider a scoping exercise of sustainability reporting methods, including inviting Visible Strategies to present their sustainability reporting system – SEE-IT.</li></ul>
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# Appendix

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## Dictation of Notes from Workshop

### Land Use

#### What are a few suggestions for long-term goals?

- 50% supply of own food/energy/waste
- Create a master plan for the island which is flexible & adaptable, but ensure that the land-use is focused around allowing the island to function as a whole
  - i.e.: mix of uses/jobs/living, etc.
- move municipal hall closer into the centre of day to day community activity – move central role in community
- satellite commercial centres – west side of island
- research agricultural possibilities
- education/attitudes: needs to be personal
- diversity and appropriate density (meaning, doesn't have to be vertical living, just dense living)
- affordable – young, older, singles, all different incomes
- quality – materials, time to think of process
- Foster, encourage, promote, and enable the development of a viable local economy. Everything else will follow including affordable housing, declining percentage of commuters etc.
- Clustered mixed use developments other than just Snug Cove. New towns
- Build an eco-village on municipal lands to show leadership and doing
- Plan neighbourhoods not just single buildings
- SUB DLV should be encouraged to plan ecological impacts
- Need a master plan
- Develop transportation strategy now to structure future development
- Establish what we are and what we aren't
- Leadership must aim far
- A passenger ferry on a more frequent schedule to encourage diversity here (essentially in professionals who can escape community – urban farming college)
- Identify cluster pods of housing, future growth areas
- Find green spaces and corridors greenway for all species
- Make it easy for tourists/island visitors to leave car on mainland
- More money staying in Bowen, less money coming into Bowen and going off
- plan for other 'centres' – Westside of island – southern area of island

- make all new developments to include 'affordable housing' but no overall increase in pop beyond 7500 people. perhaps municipal rentals
- Water transit? we developed as nodes at boat landings, e.g. Millers Landing, Hood Point, Snug Cove
- objective/performance based zoning bylaws. not prescriptive
- Develop "Bowen" hitch-hike/car share currency. Payment with this currency provides insurance provided by the municipality. users could have a card with photo ID and be listed on municipal data base
- Recognize that the small golf cart style "Bowen Only" vehicle will encourage different forms of development. currently driveways, and large garages use lots of land and require more blasting and trucking
- encourage more rapid build-out to 7,000 then slow-growth to requirements
- development should be slowed as population increase is slow
- Expectation of a rural area should be not be the same as an urban area.
- Make all new developments to include "affordable housing", but no overall increase in population beyond 7500 people – perhaps municipal rentals.
- Efforts should encourage compact areas, but leave larger areas untouched. Development should be slowed so population increase is slow.
- Consider another commercial/ institution/ school/ govt node or centre on west side of island (pop is to develop according to OCP)
- Create a municipal development corporation to receive density transfer funds/ lords and use this to rebuild the concord development
- Affordable housing – make I free of bureaucratic/ council control to provide guidance and directions only
- OCP review of zoning – identify other nodes on island
- Rezone crown lands and ensure these remain forests for long term
- Integrate clustered housing with rural land use on majority of properties
- Suite above all new retail unites
- 7-12 units per acre to support transit

### **What do you feel are the highest priorities for action?**

- Creation of complete communities:
  - Live – mix of housing types, full-lie cycle housing, mix of housing typologies
  - Work – live/work spaces, facilitate tele-commuting
  - Play – park spaces, schools, trails, bike-ways
- Overcome fear of density/mythology of the growth CCP
  - There is a need to educate and overcome resistance to long-standing and entrenched views on how the island should develop
- I suspect that the best thing o put at the top of our priorities is the change necessary to maintain & foster the human diversity on Bowen Isl. If our diversity is displaced, so is our creativity, and this is the most vital quality for...
- Density in cove and less suburbia on island.
- People/community central feel to cove
- Ferry parking-lot to be secondary to functionality of cove

- 2<sup>nd</sup> node on west side of island
- Protect potential agricultural capable land for future use
- Community gardens (Burrard & 7<sup>th</sup>)
- Reduce ferry use / less cars
- Decide on 1 or more prototypical projects to illuminate to the community what the “talk” is about
- Consolidate centres of high use – e.g. Community centre, schools, sports facilities, retail – will allow reduction of single, purpose trips, increase car pooling, provide “safe haven” for kids/teens between structural activities.
- Much more active B/M role in affordable housing – through policy (use Whistler as an example, but can’t just copy – we’re different)
- Snug cove plan – move on executing the plan presented on B/M role website (centre median, traffic columns, “by-pass” on north side and local on south side.
  - Density in core – infill plus mixed use
  - Rejuvenate heritage buildings in Cirppern Park – artists in residence, general rental
- Use ferry consciously as growth management tool integrated with how land use will build out (expand ferry capacity carefully to complement land use goals)
- Mixed residential, multi-family, smaller size, green construction and land development
- Modify the “city” modes for building typologies – Bowen is an island community, but clustering (housing) makes sense (costs: roads, maintenance)
- Alternative housing typologies – not just single family, but a diversity of options that can follow one’s life cycle and the needs that may change throughout that cycle
- Living/working on island and find what’s the right mix keeping in mind liveability, economy, transportation, time, life/work balance
- Invite collective and individual visions for Bowen’s future. Welcome new ideas. Yesterday’s answers are not good enough anymore.
- Change the current attitude and system of “stop development” and disablement to a system of “enablement”. Invite suggestions, proposals, and once received deal with them. Too many good ideas die an early death by starvation
- Convey to “legacy” population – who come to Bowen to escape densification that densification does not have to mean “urbanization”
- Visioning – define what is important for the community
  - Densities/mix/character/the Cove and its future
  - The community lacks a “heart” – rethink the cove in terms of what it should be
- Planning – create a master plan
- Review the OCP – was supposed to be reviewed every 5 yrs, but has never been reviewed, i.e. Cape Roger Curtis
- Review population estimates and limits to growth and density

- Secure and/or rezone land for: social housing, high density housing, processing green waste/sewage sludge/solid waste, light industrial
- Discourage further single family residential development
- Create second commercial hub on West Side of Island (Sunset/Adams Rd. intersection)
- Ensure that ALR lands actually produce food, rather than be used solely for residential
- Understanding (a la “pathways”) and education/outreach, re: current condition – revised “State of Bowen” as a means to understand resources/opportunities/constraints. GAP ANALYSIS
- Defining the vision as a target from which to back-cast – long term programming exercise to determine how systems ‘fit’ with desired future
- Limits to growth through managed growth
- Specific, defined parameters in the OCP and LUB, generated through neighbourhood and large round table debate (like this workshop) towards newer, imaginative courageous parameters
- Electric cart grids (plug in potential sites), connections scheduled
- Planning, pilot projects, implementation
- Recognition that we cannot continue as though land is an infinite resource
- Encouraging local (on island) food production – protecting land
- surplus lands – council should embrace and push forward by rezoning and guarantee density – to partnership with developer or by selling outright to developer rezoned and serviced properly
- move forward with Snug Cove plan
- increase density in Cove – walking community – relax parking requirements – approve secondary suites
- include Bowen’s youth in land use strategic thinking process
- conflict between OCP densities/values for single family vs. the housing products values that we say we need
- decisions on where densification should take place on the island, decide if only Snug Cove or will there be other modes of densification
- protect biodiversity
- council to instigate a fundamental ‘official community plan’ review – based on current objectives
- Protect ALR and encourage real farms/agricultural pursuits. Re-visit 10 acre restrictions to allow clusters and mixed uses. re-visit zoning to allow mixed use/higher densities/encourage live work
- no more population beyond OCP projection traffic
- Densification
- For the council to signal that we are ready for innovative rezoning
- Zone for cottage clusters/ nodes around the island
- Put energy into a few key re-zonings that offer density, affordability, green design and create great living neighbourhoods
- Preserving green space (which ultimately will act as the “lungs” of the island as we grow) as well as provide spaces for recreation and solitude for the next generation

- Creating multi-use purpose corridors where people could feasibly work and live without needing to get into their cars
- Creating areas in which affordable housing can be planned, through a diversity of housing options like townhouses and apartments, rather than only single family dwellings
- Density – Keep future development as densified as possible rather than spread out all around the island. Secure lands for social housing and light industrial – to enhance the economic development on Bowen. This would allow our people to live and work in the same physical area
- Provide affordable, accessible housing
- Create rental income, long-term leases on home in the surplus lands
- Reform Land Use By law to require clustering of home on lots
- Require a set amount (40-60%) of open-space left in a “natural state”
- Create the “Bowen Board” similar to Saltspring Island
- Minimize removal o natural vegetation

### **What are a few early projects to get started on right now?**

- There is a need to update the OCP
  - Densities are based on ideas from 1982, sustainability framework needs to be hard-wired into this
- Approach to development community
  - The “bar” has been set high for rezoning—and community amenities have been focused on environmental actors, this needs to be broadened
- Electric bikes
- Community gardens, save agriculture lands
- Planning of the cove as a ? for initial land-use decisions
- Start with the civic facilities & perhaps a private site
- Surplus lands as huge opportunity to consolidate high-traffic activities (families, kids, “consumers”)
- Surplus lands – other projects close to Snugcove or reasonably accessed by transit
- Neighbourhood gardens
- Snug cove plan needs to be executed – high use activities in co-location
- Localize activities
- Look at current developments underway, i.e. King Edward Estates, Snug Cove Surplus lands, Cole Hill, Cowan Point, etc. and explore where new and desirable industries could be implemented. Municipality/Council has to be proactive rather than wait for the developers
- Mixed-use multifamily pilot housing project to show that putting people closer together adds value to community, doesn’t have to detract from well-meaning but ultimately wrong notions of “isolated” rural character. We cannot get out of this mess if we do not talk to each other and sort out the messy business of social dynamics – one housing unit 10 acre won’t save the world and lead to the quality of life we all came here for
- The Cove – review release of OCP in terms of New Vision

- Whistler not explained well and is mis-interpreted. Look at California examples. This is an island!
- OCP/LUB review
- CRC and Snug Cove (the spectrum from wild space to dense human living)
- A second 'cluster' other than Snug Cove, allotment gardens
- Public meeting place, affordable housing, community hall, education on making land uses work
- Work with developers to make good subdivisions, acknowledge their efforts
- Create modes of office space for communal use – resistant commune to common office space
- Need for technology/telecommunications for ease of network to mainland
- Pilot projects (small steps) e.g. Affordable housing, composting energy efficiency, reduced alliance on the grid, walkable neighbourhood project (surplus lands)
- creative regulations for land use
  - each new subdivision on Bowen should incorporate an affordable component
  - site planning should factor in a detailed tree and topography inventory (tree bylaws)
  - retain narrow road widths, plus cycle lanes
  - cluster development in the cove and on the west side of island
  - public/private/partnership should be how the surplus land are developed
  - greenways strategy underway by Bowen Island Conservancy
    - Core to Cape Greenway (major) to protect ecosystems at all elevations, so protect most biodiversity
    - minor greenways connecting along riparian and other corridors
    - recognize, monitor, manage green infrastructure values
- Change our definition of 'density'. Weighted density – smaller, greener, socially responsible homes (units) to be counted as a fraction of a density unit. do not consider higher density to be negative
- encourage groups of individuals to propose forms of development that do not meet current zoning bylaws for council and the communities consideration (objective based bylaws)
- allow existing development to be better utilized: duplexes, secondary suites – a local coffee shop
- municipality to become 'landlord' on some surplus lands
- ferry-marshalling, Cove village
- Replant and rezone the Cove
- Snug cove surplus lands planning – build "eco-village" elements
- Create eco-village for Belterra
- Use surplus lands carefully. Preserve some and dedicate some for mixed housing

- Stay within overall OCP density level
- Improve walkway up to Artisan Square

### **Who needs to be consulted?**

- Community consensus on Bowen Direction, discuss & whole island agree on direction (if not how to get there)
- The island as a whole needs to be conserved, but council must move forward.
- Communities, consultants, i.e. Planners, engineers etc. to final successful precedents. What has worked, where, what did it take to make it successful, can the example be applied to Bowen?
- Other island dwellers
- The public
- municipality, developers
- Planners – who should develop concepts and pictures
- Agricultural advocates; infrastructure engineers; environmental experts (on needs of wild natural life)
- BC Ferries

## **Transportation**

### **What are a few suggestions for long-term goals?**

- Fixed-limit of the number of cars/licenses on the island
- Local carbon tax
- Tax incentives to give rides-sharers
- Cross island “green” transit, i.e.: mini-transit
- Carbon-neutral transportation system
- Car sharing – requires density and organization
- Commercial satellite centres
- Small vehicle routes (trails and for electric carts, etc)
- More people, less cars!
- Additional faster, more frequent passenger only ferries to encourage commuters to leave cars on the island and or on the mainland. Extend Bowen Bus service to destination ? on the North Shore (shopping centres and medical facilities) to provide convenient alternatives to under car use. Passages ferry from Bowen to downtown Vancouver.
- Relax car use (huge increase in traffic in recent years)
- Separate vehicles from Pedestrian/bikes in the Cove
- Special ferry rates for desirable transport services
- Plan roads that include all uses
- Make starting time for school and work later so people can
- A Bowen Island with no private automobiles, or vehicles with no emissions
- smaller roads (single lane)
- economic development/infrastructure plan to promote live/work and telecommuting

- encourage density near Cove:
- smaller electric/hybrid cars encouraged
- Smaller bus with more trips on pools
- Combine school bus and transit bus
- Parking areas should be same surface as in West Van Community park
- Encourage open block structure for driveways and gravel walkways and bus shelters
- Goal for carbon – neutral community by 20??
- Plan for slower electric vehicles
- Adjust the LDC to allow for 16 foot wide roads
- Create a filter-marsh to deal with the extensive coverage of asphalt in Snug Cove
- Turn lower cove development to face south (sunny) direction by using existing GVRD ROW as a pedestrian walk-out
- Electric vehicle fleet for visitors as well as residents
- Disperse shopping (decentralization)
- 

**What do you feel are the highest priorities for action?**

- Providing alternatives to cars
  - Making transit more viable
  - Opportunities for biking—providing infrastructure
  - Further integrate and complete the trail network
- Creation of nodes with mixed uses could provide density needed for viable transit, come commercial uses to reduce overall trip length, place more people within walking/biking distance
- Car-pool on mainland; Electric bike/car on island
- Frequent ferry (people & limited commercial for island business)
- Don't build ferry parking-lot, not needed
- Design cove to be people friendly, market squares, cafes, bike/people friendly
- Long-term transportation strategy focused on post oil/post car
- Awareness about “the car”—possibly adding more services/residence in cove is part of this first step.
- West-side small-scale retail (role?) (NOT Cowan Pt/Seymour Bay – dead end cul de sac)
- Develop intentional goals for ferry (see land use notes)
  - Redouble efforts to get BCFC engaged in BI-focused TDM goals (parking in HSB, bike incentives, length-based parking)
  - Do not have reducing wait time for ferry as a big goal – wrong goal (popular, but wrong)
- Biofuels availability (use B/M leased land @ public works yard) plus car-share location in HSB (use the Vancouver co-op)
- Street greening
- Not “no” car, just “smart” car
- Street for all: bikes, dogs, cars, people, animals (re-fit the scale – “lane ways” might be better of infrastructure than “major streets”)

- To start a process to ?, explore, research for alternative modes of transportation to and from Bowen. That process should not take more than 12 month ?. at the end of the process make decisions and actively work towards that supplementation.
- On island-transit
  - Ferry and off island – how can we take “ownership” of this
  - Passenger ferry to supplement car ferry
- Population
- Make it easier for pedestrian/cycling, more difficult for single occupant vehicles
- Develop better infrastructure for bus shelters, cycle paths
- Keep vehicles out of residential areas
- Development of Island street standard, best investment of limited resources
- Post-carbon transportation master plan in the context of island-wide master planning/community planning
- Transportation planners trump land use planners...feedback loop between the two
- Road plan tied to an island-wide managed growth plan (revised OCP)
- Major node as Snug Cove, increase densification
- Safe pathways for scooters/electric vehicles
- Passenger ferry at rush hours on more frequent basis
- Regulation and planning ID key areas
- Improve public transportation
- Separating pedestrian from auto in Snug Cove
- Focus on developing trails
- Westside shopping/business area, will lead to less travel
- revisit ferry from Snug Cove to Vancouver
- greenways suitable for elect golf cart type vehicles
- create live/work opportunities to keep population on island
- improve telecommunications infrastructure to accommodate telecommuting and IT businesses
- remove focus ferry and ferry marshalling, recognize it as solution to yesterday’s problem
- 2<sup>nd</sup> ferry, marshalling
- Reduce the need for travel itself – densification, land use planning
- Create alterations “nodes” which diminish need to travel for services
- Promote and change modes of travel (bicycle, efficient autos etc) – to reduce environmental impact
- Move toward an economic sustainability – move jobs “on-island” particularly those not dependant on sales to the local economy
- Municipality sponsors/ funds a “share the ride” program, particularly for work – commuter. Go down to the ferry and give out “sign up” brochures
- Mode shift developing improved transportation alternatives to single occupancy vehicles on ferry
- Identify other population nodes (eco-villages) locations

- Support, enhancement and viability of alternative transportation
- Expand the bus service – to area that don't have it
- Make it easier for pedestrians and cyclists
- Get a passenger only ferry
- Negotiate with Translink to having another option to get on/off the Island and not be dependent on BC Ferries
- Find ways to support car-pooling and other commuter possibilities to get people out of single occupancy vehicles
- Ferry marshalling plan
- Improve ferry marshalling & cove beautification by new traffic infrastructure to be built within the existing right-of-way, and not intruding into Crippen Park
- Promote two-wheel transport
- Parking for bikes
- Create maps of use: destination patterns (commuter vs. recreational); transportation use; land use vs. transport rates, etc.

### **What are a few early projects to get started on right now?**

- Prioritize loading for multi-occupancy vehicles on ferry
- Anti-idling bylaw (especially for ferry line-up)
- Do not provide commuter parking as part of ferry marshalling solution
- Question seriously whether there is a need for a bigger ferry
- Change/reduce parking requirements
- Stop planning for cars
- From the perspective of encouraging, nurturing change, it's important to recognize & celebrate changes. There's a "disorder" where people berate themselves for an overwhelming conflict (i.e.: environmental crises), & and when they do something to help, they don't acknowledge that, as it perhaps isn't enough.
  - This could be built into a community system of acknowledgement & encouragement (bumper-sticker idea; celebrations)
  - Waterways as transportation; mini-passenger ferries; co-op kayaks
- A car-pool on mainland, electric recharging facilities around island
  - Electric bikes
  - Horses?
  - Water permeable roads/paths
- Passenger ferry to downtown
- Make "Main St." of Cove permeable surface-pedestrian amenities; a model of home design for the region
- Better public info about bus service – post schedule in big places/stops on island
- Anti-idling bylaw and campaign in Snug cove (double-wide ferry marshalling will naturally ?)
- Pay parking in cove – use for TDM programs
- Vehicle size ferry charges
- Developers give residents a bus pass (2 yr)

- Use ZIP cars and shared car network
- Don't put in roads – put in permeable surfaces (lane ways)
- Street doesn't have to be paved – don't add a curb – just let the natural landscape come up against the road
- Speed bumps to close people down
- Better, less expensive parking in Horseshoe Bay to encourage people to use the ferry as foot passengers. Parallel major streets with bike lanes and trails.
- Neighbourhood-level car co-ops, not island wide (which works in extreme dense environments). In other words, facilitate the neighbourhood pick-up truck. Allow municipal support for this, i.e. Allow permanent parking on road/right-of-way, electric charging station with shelter-designated, ?-car parking space
- Eliminate “minimum car parking space” requirement for homes and business
- Require all new roads to maximize runoff handling on site, i.e. Permeable surfaces, swales
- The Cove
  - Not currently able to handle parking for its role as commercial centre
  - Encourage (spot zoning) comn (i.e. Store) in West and South Bowen
  - Designated car-pool parking in the core
- Public-taxi service
- BC Ferries Length-Based billing. Traffic calming in ‘through-traffic’ residential neighbourhoods
- Adequate property for pedestrian trail ‘links’
- Cycling and walking trails and greenways
- Limit ferry size – car sharing – ? through system back into the community to force harder choices and sacrifices (more people per car)
- Passenger ferry to downtown
- Scheduled ‘tours’ into LMD, i.e. To Park Royal/VGH, sort of an expanded car pool/taxi hybrid (a la Red Car)
- Public car co-op and island electric cars
- Road side (trails, sidewalks, purchase incentives from private owner, i.e. r/w tax break, an acknowledge donation)
- Grocery deliveries (to avoid unnecessary car use)
- Arrange walks to stores with neighbours
- tax incentives for local electric vehicles and any property on public roadway to provide asphalted bicycle path on their frontage
- Parking spaces to be fitted into treescape on surplus lands, irregular arrangement on gravel. non-intrusive
- “Ride Wanted” stations in Cove for hitch to city could be on ferry as well. people in capacity could offer any extra space to those who need it
- Try to sell \$1.00 tokens exchangeable for gas purchases. Tokens to be purchased by hitchhikers who give one token to drivers that pick up

- hitchhikers. Effectively turn all cars into buses and remove feeling of guilt when hitchhiking. It would quickly become very easy to get around without car.
- Ask ICBC, our insurance company, to create a new class of vehicles to be insured. small “smart” golf cart like vehicles only allowed to be used on Bowen Island. this reduces ferry use, gasoline use. it also requires much smaller parking facilities
  - in daily life transportation should be a choice, not a necessity. do not subsidize commuter care use. develop a ferry fee structure that encourages better use of the existing systems
  - develop cheaper, level, narrow pathways, for electric cars and bicycles, shortest route, in addition to old car infrastructure
  - build lockers of varying size near the ferry terminal. store bicycles, bike gear, or whatever is too heavy to carry; lockers are for rent
  - change parking regulations for cove to reduce requirement
  - length based ferry changes
  - Encourage electric bikes
  - Create a bus working group to develop options for bus system improvements. Translink has committed a planner to such a group
  - Commit to community energy plan actions (complete phase 3)
  - Ensure current re-zonings (Belterra, Cape Rozer) include “newthink” on transportation design/ needs/ solutions
  - New neighbourhood road standards
  - Island car co-op
  - Create roundabouts instead of stoplights
  - Subsidize parking in HSB in existing parkade
  - Establish HOV & preferred stalls for “accredited” vehicles at terminal
  - Collective office space for “Lonely” home office workers (Need to improve tele-communication infrastructure)
  - Encourage hitch-hiking (picking-up)

### **Who needs to be consulted?**

- Federal government to change transportation safety regulations to allow smaller engined cars/slower speeds/wider age groups
- Consult everyone, with staff guiding, but act now
- BC Ferries, Translink, private incentive transportation companies (privatize the ferry service for Bowen?)
- Community/transportation providers/electric vehicle producers
- Municipality, Telus, Shaw, etc.
- Developers
- Translink for bus innovation (along with bus owner and drivers)
- Sydney to Manley route in NSW, Australia as an example of a ferry that goes somewhere
- GVRD

## **Buildings**

### **What are a few suggestions for long-term goals?**

- Self-sustaining for energy
- No export of waste
- Grey-water recycling
- Apply “carrot and stick” approach for the implementation of best practices
- Zero-waste
- Green building standard on Bowen needs to increase
- infrastructure of properties to strata developments to encourage greater portion of properties as common land
- off-grid developments
- back-up power generation from bio-mass generators
- every building should have a water filtration system
- new multi-family buildings to have community compost/recycle, etc.
- Develop or adopt standards to make residences as self-sufficient as possible (reduce imports and demands for services from the community)
- Compulsory water collection in new buildings to allow for increased density
- Don't use greater energy efficiency in buildings as an excuse to drive the density level up
- There is a point beyond which higher density lowers the quality of life /liveability
- Future municipal center to be “Green” building

### **What do you feel are the highest priorities for action?**

- Addressing energy efficiency in existing homes, retrofits and incentives
- Managing water use
- Development of a district energy system for Sung Cove and the surplus lands
- Camal & Stich—to encourage/legislate “Green” Buildings
- Give developers more unites for higher “Greenness”
- Recycle houses pulled down on Bowen
- Limit home size to 2000 sq/f or smaller
- Punitive costs for 5000 sq/f
- Water conservation
- Grey water in BI-specific building code
- Road building stds that reduce impermeable
- In policy at the municipal level, can it encourage more “green” sustainable design/buildings with bonusing, tax-incentives, timing (i.e. Going through rezoning faster by making those proposals that support green go first?)
- Provide incentives/rewards for the implementation of best practices by builders, homeowners, and developers.
- Enough talk and start building high-profile examples of green buildings that work in a Bowen context

- Municipal development of first on-island passive solar, constant temperature multi-family residence with net-zero
- Limits to housing size
- Acknowledge participants to develop green building guidelines
- Inspiring builders and developers to recognize that green building is a strategic competitive advantage, not a cost centre
- modifying the Provincial building code
- affordable housing with new technologies – including modular manufacturing
- new construction in any water district must pay to retrofit existing housing to reduce H2O use in existing housing by twice the new use
- New wiring underground
- Property tax cuts or mortgage rate breaks on green buildings
- Create commercial / industrial standards and put forward a location on Bowen to naturalize? – rezone opportunity
- Green buildings
- Limit house size immediately
- Better use of storm/rain water

**What are a few early projects to get started on right now?**

- Metering on all water systems
- Further promotion of rainwater collection systems
- New road standards, i.e.: allow flexibility in sizing, plan for multi-tasking
- On-island compost facility
- Leverage the opportunity of controlling development of the surplus lands to promote cutting-edge solutions
- Bowen is being developed at a rapidly increasing rate. Now is the time to make strong decisions about our community identity—do we become radical role models by implementing extreme green building standards (many of the people arriving likely can afford it)
- Snug Cove Planning, Cape Roger Curtis Planning
- Also, one or two quick “model” projects—perhaps individual buildings to generate excitement
- Impose green standards of leading edge
  - I.e. every unit must reserve a certain % water on site
- Take the development of the Snug Cove Surplus lands as an example how to do things correctly (best practices). Propose to the developers of current projects to apply these practices by providing some incentives
- Educate on easy ways to reduce building energy uses
- Have local suppliers stock on a least offer to bring in materials
- all new buildings:
  - sprinkler systems (from rainwater)
  - 5,000-10,000 gal cisterns-purification systems
  - fire retardant roofs
- reduce or eliminate parking requirements, people will adapt, parking requirements can prohibit innovative housing

- relax zoning requirements as required
- Encourage home gardens
- Biodegradable toilets
- Chemical toilets, not septic fields
- Look for symbiotic relationships between building uses
- Municipal incentives to upgrade toilet, water heater, wood stoves, etc.
- Have “off-grid” buildings
- 

**Who needs to be consulted?**

- Expert consultants to educate Municipality (staff and Council), builders and developers
- Developers, builders and planners

## **Infrastructure**

**What are a few suggestions for long-term goals?**

- Zero waste on all of island by 2015
- Low flush w/c; Mec rain collection; limit; bio-sewage treatment
- Road damage as a result of building all over island
- Long-term greater self-sufficiency, mostly in terms of energy/transportation
- Put systems in place/or allow for them to adapt over time
- Work towards zero waste
- Get us off single household treatment
- Net-zero zoning: reduced municipal fees and taxes in exchange for low/zero impact development
- Community investment bonds to make new/next building a green showcase
- Constrained island – share services – consultants
- Collaborative business – “sharing the pipe” – laying it all underground” – eliminating power
  - Telecommunications/sewage/drainage
  - Making the grid cost effective
  - Getting a larger power source to the island from mainland
- delivery trucks to drive away waste and come back with supplies to reduce the number of trips the trucks can make
- look at ideas such as Ecotek’s green wastewater treatment systems using constructed wetlands (big vats or aquatic plants) for community sewage (micro plants) treatment
- incentives for green building construction (density perks, “green credit” on tax assessment)
- All water sources metered and high fines for excessive watering
- No sales of non-biological cleaners on Bowen efficiency completion
- New road standards for multi use
- Wire for solar power

- Metre water
- Zero waste leaving the island

**What do you feel are the highest priorities for action?**

- Manage all waste on island – power plant, island transfer station
- Master planning, sustainability @ a whole island level , rather than project by project, or building by building
- Radically changing the island's infrastructure
  - Water/sewer; solid waste, economically could be wrong model
- Land cleaning LUB provisions that reduce water and increase groundwater retention (reuse it as a condition of subdivision plan or building permit)
- Energy conservation – hot water systems (Taylor Munro rooftop systems)
- DCC's (Development Cost Changes) on new developments to
  - Recognize cost of "built infrastructure" on rummaged infrastructure goal/taxes
  - Provide revenue base for BIM infrastructure development in green infrastructure systems
- Recycling much more organized and larger
- Water conservation
- Waste management principles – re-use waste rather than truck off island
- Establish and enforce higher standards
- Develop incentives
- Prioritize neighbourhood infrastructure (sustain strategies)
- Education at all levels and leadership
- Encourage clustering and densification to reduce infrastructure costs
- Complete infrastructure inventory and ensure annual \$ contributions to reserves are in line with replacement costs of existing infrastructure before building new facilities, etc.
- Develop long range capital plans for all infrastructure
- Creation of incentives for 'green' building/infrastructure in new development/awareness
- Support of local technologies/local capacity
- Clustering, limit fencing
- A green belt/ALR commitment to maintaining green ? average
- Rainwater collection and its management
- Power outages – generators
- Create a Bowen utility partnership (BC Hydro? Terasen)
- Home appliance retrofit to promote water and energy consumption reduction
- Create Bowen Eco-Commercial Network – Chamber of Commerce?
- Pilot more compact decentralized wastewater treatment – demonstration neighbourhood
- use water collection systems as main supply and not just as backup
- zero-waste goals, improve capacity of recycling deport, hire manager (cannot be the sole responsibility of volunteers)

- be able to use grey water legally
- Need “eco-villages”, not more single family residences. Council to make this clear to development community
- Provide education and incentives to reduce energy use and improve efficiency both on local and community level
- Need to ensure safe, diverse and consistent water supply for community and education. Incentives to reduce water consumption.
- Energy conservation strategies – education
- Better municipal management of water
- Mandate rules for mandatory pervious-pavement asphalt on all private lands

**What are a few early projects to get started on right now?**

- “built green” – all permits
- Bowen Island (compost green waste and glass)
- Don’t expand Snug Cove treatment plant, create a new plant-based state of the art natural treatment facility
- Waste reduction (turn into resource stream)
- Water conservation
- Energy budget
- Develop rainwater harvesting strategies at the single family residential level
- Encourage clustered development and densification of Snug Cove
- Seek studies that show water limits, population projections, etc. that give us a clearer sense of how those choices will be made
- Local bylaws, i.e. Banning incandescent bulbs
- Get rid of non-energy efficient appliances
- reuse ‘grey water’ for other purposes, such as landscape
- retain all water management functions W/I BIM (not contracted out) to retain sovereignty and control in face of NAFTA IFTA, etc.
- new small sewage treatment can pump out grey water
- develop restrictions on Crown land by layering issues onto the map, such as water shed/groundwater recharge, transport, corridors, ESI, wetlands,etc.
- Review potential for District heating in Snug Cove planning
- Put municipal effort into creative re-zonings that use green building/ infrastructure
- % of roads budget for trails
- Reduce energy use
- Zero-waste management for whole island
- Create bio-swales to deal with ferry?

**Who needs to be consulted?**

- Everyone—start with kids
- Communities in UK are going carbon neutral – lets invite their leadership over

## Open Space

### What are a few suggestions for long-term goals?

- Education connected with gardens
- Combine the value of open space and these recreational and agricultural uses to foster and promote the development of a vibrant hospitality industry. Provide and foster the development of food producing enterprises and places of hospitality (inns, B&Bs, resorts)
- Island stewardship, establish vision and guidelines (short term), establish and enforce regulatory (longer term) framework
- Agri-tourism
- able to buy 70% of food basket from local Bowen product
- create a license and inspected community kitchen that can be used to add value to props than can then be sold commercially on Bowen
- Ollotmanets encouraged by counsel down near BIHORA on GVRD land
- Parcel size about 6ft wide and 25' long per family – some small sheds, lockable for tools fertilizers etc.
- Greenway paths for deer
- No net loss of forest cover for entire island – see this as a carbon sink
- Develop strategies for protecting “Good agricultural land” – not just ALR
- Reduce
- Provide incentives (tax break) for agricultural use of land
- Design cove to preserve song-birds—build in biodiversity
- Public play-space for kids
- Acquire more public space (petrol station lands turned into village square flanked by a performing arts center/town hall
- Use community building rooftops for playing – field irrigation water

### What do you feel are the highest priorities for action?

- Development of a local food system and production plan
- Look at how we can protect Crown Lands
- Analyze what takes people off the island to recreate and how it can be provided on the island
- Crown lands need protection
  - Greenway strategy
- Becoming aware of our current food sources (salmon, clams, potential agricultural cultivation , space, etc) and how to keep them, how to foster, how to take care of them
- Hydroponics, mushrooms, crown lands with goat/deer/cattle farms.
- Increased self-reliance—more island produced food
- Continued protection of ALR lands; mapping of other potential agricultural lands
  - Farmers market
- Public space that can be a focus for immersion

- Civic gatherings & contributions to these gatherings
- CRC – comprehensive development plan that narrows traditional community use established over decades
- Much more active BIM role in protection of Crown land (even though it is not BIM jurisdiction)
- New developments to have communal growing space(s) (and communal commercial kitchen)
- ACR lands receive 50% property tax reduction, most are not used for agriculture
- Softer delineation by design from public-private realm
- Not a question of just more open space rather, better programmed space – to take into account all ages of Bowen, i.e. Skateboarders, seniors (community gardens), mothers/fathers with young children, young adults/teenagers, young professionals, etc.
- To encourage the establishment of a vibrant hospitality industry to utilize/visit the open spaces for recreation and value observation and to celebrate food. Wide range of B&Bs, inns, restaurants
- Complete inventory of natural resources including land/productivity, green space, habitat/biodiversity
- Green (prioritization of open space community needs conservation, agriculture, recreation, etc.) plan with open space (functional) inventory
- Reconciling strategies between: retrofitting Bowen’s existing systems of “who pays?” vs. considering future developments (future development on island as engine/catalyst for transition to move sustainable systems)
- Crown protection on open space
- Cove to Cape initiative...huge! No net loss initiative w.r.t. habitat and diversity
- common land in strata developments
- density transfer mechanism
- ensure Crown land is not sold for development
- encourage multistory buildings with smaller footprint, smaller site coverage
- Encourage clustered development; allow ‘o’ lot line development leaves larger uninterrupted areas.
- through zoning, create smaller private lots, and obtain large uninterrupted public green spaces
- Incorporate small “spot-zoning’ for community gardens and little farms in park systems
- In large developments, create a small neighbourhood building adjacent to recreation field
- Enhance opportunities for outdoor recreation, not just green corridors for walking alone. More playfields for example get more kids outdoors in areas other than the school.
- Continue “Greenways strategy” currently underway to develop interconnected publicly owned greenspace
- Protect and support agriculture use of land
- Support community gardening

- Create out-door amphitheatre
- Preserve green corridors from sea level to mountaintop

**What are a few early projects to get started on right now?**

- Provision of community gardens, designate space within Snug Cove
- Adoption of the Greenways Strategy, resolve development of an accompanying master plan
- Adoption of Environmentally Sensitive areas DP area
- Creation of a disc-golf course
- Stand alone trails and bikeway plan
- The equivalent of the “Sooke Harbour House” on the island
- A community garden/allotment/victory garden
- Compost station(s) on island
- Stop any building permits on potentially usable agricultural land
- Encourage less tax on Hobby farms
- Hydroponics
- Community garden in one or two higher density areas—Snug Cove, Deep Bay, Tunstall Bay
- Focus grown by-laws , etc, for “stable” parcels
  - i.e. public streets!
  - Community greenhouses
- Close access to Crown land for destructive off-ward vehicle use in Crown lands near CRC/Cowan Pt.
- Vertical “sky” gardens
- No more CRCs
- Provide incentives for the development of inns and small resorts surrounded by open space, patios, trails
- Pro-active approach to subdivision
- Review OCP
- Encourage boulevard gardens in high occupancy areas
- Snug Cove Enhancement Project?
  - Native species landscaping/habitat enhancement, edible landscaping/urban agriculture
- Annual food garden/ green building tour on Bowen
- Develop forested areas management strategy. Protect big forested areas on island
- Down zone Crown lands to improve protection of forests
- Community composting
- Discount at restaurants for purchasing local

**Who needs to be consulted?**

- Kids first; draw on expertise already on Bowen—local knowledge.
- Consultants, experts to educate about the values for the quality of life of a community desired from attractive open space and related uses.
- Lots of local expertise...need to collect and utilize it

- GVRD

## **Food**

### **What are a few suggestions for long-term goals?**

- Island to feed 30% of needs.
- Development of a greater agricultural community.
- Have a strategy with a target for the island
  - i.e. 40-50% on island processed
- community gardens centralize the expensive infrastructure of food growth
- growing groups
- edible landscaping
- Green Star Marketing – economic development
- drip irrigation, solar pumps
- Increase locally produced food. Increase food available at local market

### **What do you feel are the highest priorities for action?**

- Overall policy to preserve & grow
- Create Wiki-style knowledge base of what specific varieties of food and fruit grow well on this island – don't try to re-invent the wheel every time
- Reduce yard trimmings collection program and encourage backyard composting
- Ensure that ALR and similar properties actually produce food
- Save potential agriculture land from residential subdivision/development
- Protect farms – organic farm bonds co-op
- Food-organic-clean -> economic development -> clean industry
- community greenhouses
- Some flat roof designs for gardens
- Food garden space in denser areas to be tied in to school garden projects
- Maintain orchards

### **What are a few early projects to get started on right now?**

- Municipality could fund a grassroots agricultural knowledge base
- Stop sending green waste off island today – we need it to start building up soil – encourage composting at neighbourhood level
- Demonstration compost garden
- Process sewage sludge/green waste on island
- Sunday Farmer's market on Snug Cove Dock
- Encourage composting to improve soil – dig in plant materials
- Plant fruit trees, berries, herbs, etc
- Encourage community gardens in multi-family developments
- Celebrate local food and food growers
- Take away development rights on Crown Lands

### **Who needs to be consulted?**

- Establish Agricultural Advisory Committee

## **Social Development**

### **What are a few suggestions for long-term goals?**

- Care/nurture of “spirit” that is present in each of us
- Find quality of life metric for Bowen
- Not just save salmon, but increase their numbers
- Start educating kids on these issues
- Nodes of development; higher densities—more opportunities for interaction
- Public art
- Cove needs to plan its self for a much larger population.
- Diversity: ages, ethnicities, family mix, embracing the mix
- Universal design? Accessibility issues for all: mobilities, ages
- Social capital is high though, there is good and bad social capital – council assume all social capital is good
- Provide incentives to developers to provide/include affordable/diverse housing forces as part of their developments
- Encourage modular/prefab mini houses for worker population, i.e. Farm workers, construction trades, have to escape the second-home scourge. Also...there is very little rental housing because home owners are converting suites to B&Bs – more lucrative, less hassle, but that means economic diversity is diluted further still – how can municipality make ? suites more appealing than B&B option?
- Non market housing (co-op or other)
- Learn to substitute spiritual development for economic development and consumption
- International connection: Bowen Island First Credit Union (banking on Bowen and putting profits back into the community, from the community potentially into a 3<sup>rd</sup> world community.
- Marketing: 24hrs on Bowen
- Build on the strength of the artistic community, create other clubs and communities with shared interest
- Close down liquor sales and prosecute drug dealers on Bowen
- Build a new medical clinic
- Integrate arts, rec, chambers, police, ambulance, library
- Churches should share facilities, teach religion objectively
- Teach humanism. Support MSF and FCPlan – a certain % to international charities
- Maintain social diversity and mixed housing – lots of small housing forms
- Forming “Sister-Islands” projects
- International centre for sustainable development or municipal developments

- Celebrate island talents (community building activities)
- Share information (islands treaty)

**What do you feel are the highest priorities for action?**

- Provision of housing for all segments of the community
  - Seniors
  - Lower-income
  - Youth
- Maintaining strong level of community engagement
- Protection of diversity –strikes at the affordability issue, what happens to Bowen as a community if it becomes an enclave for the wealthy
- Development of the Surplus Lands and Snug Cove should have a strong emphasis on social interaction and a well-developed public realm
- Maintaining own diversity of community
- Decreased reliance on services/infrastructure in an increasingly diverse city
  - Healthcare, arts, education
- Wider variety of public spaces
- Less commuting, more local work or telecommuting
- Cove should centralize social activity into an area where it becomes island focus & gives that cultural perspective ? to the vision
- Affordable housing
- Sister city and 2 for 1 – 2000 ? in 3<sup>rd</sup> world
- Mixed housing, stronger neighbourhoods – work towards creating neighbourhood rather than just a bunch of residences
- How to attract younger people back to Bowen
- Need social mixing of all ages
- Provide affordable housing forces and a greater diversity of housing for diverse needs and wants
- Affordable housing – Bowen rapidly becoming a ‘resort property’ – enclaves of the rich – in my family neighbourhood every time a house is sold a retired couple buys it – gradually turning over of demographic – older with more money
- Ethnic diversity
- Study demographics
  - What is Bowen’s profile?
  - What are current trends/what are influencing factors
  - What do we want
  - How can we encourage shift to get to where we want to go
- Civic facility- to function as the social heart of the community
- Developing community spaces
- Providing affordable housing for low income families
- Encouraging neighbourhood associations to address neighbourhood issues
- Where is the youth of Bowen? Their voice and values are a glaring omission with the attendance

- Affordable housing is only a single component of what attracts young residents – future of the island
- Affordability (housing diversity), wild space, arts support
- Brand the green edge and back it up (marine, Crown land, etc)
- Sister island?
- Need teen activities
- Bring opportunities to Bowen
- Build a multi-use venue
- Have broad community events
- permit 'mini' community centre buildings in various parts of the island
- also permit small 'corner' stores near them
- re-zone for retreat centres, private schools, studios, live-work housing, seniors co-housing
- engage youth more in the community
- encourage groups of islanders, and developers to propose developments that meet community objectives, provide 'zoning' schedules that allow these projects to proceed. mixed housing, mixed use
- Reward for volunteers – recognition
- Have a community centre where folks can sit and chat for hours
- More housing diversity and more affordable housing
- Enhance health services
- Mandate a % in each new development permit for suites

**What are a few early projects to get started on right now?**

- I'm very interested in a salon. It would consist of evenings of:
  - Food, drink, intimate setting
  - Leads for conversations
  - Perhaps a facilitator now and then
  - Perhaps part of it might be an evening where people are invited (randomly? With emphasis of representation of various ethnic groups [I've heard first-hand from a half-Asian on the island who experienced racism & lack of multiculturalism
- Affordable housing/community garden/island transport/The Cove—surplus lands building
- Farmers market; civic facility
- Cove & civic precinct as social hub
- Encourage community gardens, help encourage more social interaction
- Public art, artist live/work spaces
- The development of the Snug Cove surplus lands plus the potential for affordable/diverse housing forces as part of the developments currently under way – Council has to take the incentive before more potential is lost irretrievably
- Mandate diverse housing types – subsidized, low income
- Civic facilities (e.g. community swimming pool)
- Create an affordable housing corp. (municipally owned), pilot housing project 10-20 units

- plan for a “public market”, cheap rent, like a European market in the town square, provide rain sheltered stalls
- the municipality can ‘fund’ some competitions to raise awareness of Bowen’s potential: a sculpture, a garden, a mural, a bench, a gate
- pass good secondary suites bylaw
- develop a Municipal Housing Corporation to manage non-market housing and as private-public partnership arm of municipality. (to retain % ownership in land municipality sells)
- Pursue re-zonings with affordable housing as an amenity
- Community fair highlighting Bowen community organizations to promote volunteer opportunities
- Reach out to developing nations with sister-city relationships
- Implement Cultural Master Plan (currently affixed as appendix to OCP)
- More inter-island cultural exchanges
- Non-commercialized Bowen-fest
- International involvement – local government management association involvement in partnership providing support to communities in Africa impacted by HIV/AIDS

#### **Who needs to be consulted?**

- Council needs to say NO to special interest groups
- Ask the teenagers what they need so as to make the teen center better
- The council, they are the decision makers, they have to take the initiative. There is no natural incentive for developers to provide you or low market value housing unless compensated for by incentive ?

## **Economic Development**

#### **What are a few suggestions for long-term goals?**

- Explore opportunities for community scale energy
  - Wind
  - Biomass
  - Geothermals
- Passenger ferry
- Creative, unique mix of uses in cove, i.e. some “light industrial,” some artisans—make cove a vibrant alternative destination for businesses
- Implement a long term strategy to promote and foster a strong local economy by providing sufficient incentives to those who are willing to start or run an enterprise (profit or non-profit) and developers who need to provide the space or facilities for such enterprises.
- Best way to encourage a healthy island economy not dependent on tourists (who may or may not be coming in 5-10 years due to ferry costs escalation) is to boost island population so there is an adequate innate domestic/captive market. At 3,500-4,500 people we can’t develop

meaningful local economy, including jobs that can pay an island mortgage.  
So we land in a pattern of commuting – in tern high emissions!

- An increase in population in lower impact forms that do not strain infrastructure
- Mixed use retail below/condo above buildings
- Are there opportunities to link redevelopment of the Cove with Bowen Brand
- Communal office spaces with shared meeting room(s), receptionist(s), copier, fax, etc.
- Ensuring a stock of available labour/employees by ensuring that affordable housing is available
- 'Buy on Bowen' campaign/contract between shopping/residents and retailers (with prices coming down on island)
- Seek economic opportunities that make sense to Bowen (e.g. Wellness Centre?)
- establish Bowen itself as an 'open' University, with experts in various fields provided housing and income to be 'in residence'. Intellectual and financial capital to be generated from this activity.
- hold festivals during the winter when less tourists come to Bowen
- partnership between businesses and arts organization
- Need intellectual business – software development, writing, design, planning composing
- Tourism
- Buy more on Bowen
- Move Bowen towards a Complete Community (live, work and play)
- Art college, a satellite of Capilano College or Emily Carr in partnership with BINC
- Increase quality & quantity of office space
- More tourist accommodation
- Improve electricity & telecommunications in winter months
- More secure electricity system and/or backup
- Develop "District" energy management system

**What do you feel are the highest priorities for action?**

- Facilities for people to work at home or on Bowen somewhere
- How can Municipal Process be adapted to facilitate business (i.e.: speeding up rezoning and other processes
- Foster the sharing of recourses amongst local businesses
- Education
- TBL strategy
  - Great ecological model
- Apply the rules evenly to all business on the island
- Make opening an honest business/new business easier than opening a branch-base business
- Mixed-use, high-density buildings
- Some light industrial space

- Less commuting for work; more telecommuting; work-at-home
- Support for small entrepreneurs
- Population growth—be competitive, best at certain things, i.e. wine in Okanagan, cheese/coffee on Saltspring.
- BIM support for businesses that directly contribute to other sustainability growth
- BIM Economic Development officer – action now – share (50/50?) an EDO position with Sunshine Coast RD based on sustainable tourism development objectives
- Growth management – we need to spread economic benefits (or growth) for construction industry on island over time
  - Slow down growth (vs. bringing contractors onto island every day)
  - Construction is biggest on island “industry” – lets sustain it
- Economic base – drives land use and transportation
  - Commuter suburb – status quo
  - Tourism/upscale destination
  - Diversified economy – small agricultural base, small business, high value added, economy has element of recycling house
- Encourage AMAP – shopping on Bowen – Cofc does this (Live/work encourage this type of business)
- Increase on island services where there is a gap – this ? reduce need to commute off island
- Help celebrate the local
- Provide for live/work spaces so people don't have to commute in/out as much
- To implement a strategy for the development of a strong and viable local economy. The strategy has to provide for significant incentives
- Develop/encourage services on island to keep here
- Utilize Bowen Brand – education (knowledge and experimental based), institutions, recreation
- Targeted mixed use development for example live/work space and small commercial spaces
- Recognize potential for new, planned development to facilitate community needs
- Foster collaboration between development process and municipal government with public as a means to achieve vision
- Prioritizing incentives around partnerships (economic/green committee working in business and Chamber of Commerce)
- Establish the second core area other than Snug Cove
- Buy local initiatives
- Increase functional professional workspace on Bowen to assist keeping \$ here as opposed to commuting off
- tax breaks for food producers
- municipality should rezone and service the land, then offer it to developers
- to make it affordable and accessible for those who want to work and live on Bowen

- tourism needs to be managed not just promoted
- Muni should be proactive, not reactive. Just don't wait for the market to act
- Hire an economic geographer/ MBA firm to do an analysis of potential business that would fulfill the objectives Bowen and then propose incentives and regulations that promotes the economic future we would like to see.
- Brand Bowen as a place where "Culture and nature converge"
- Community woodlot—mil trees blown down during storms for lumber & firewood for on-island sale only
- Replant forest areas devastated by storms

### **What are a few early projects to get started on right now?**

- Reliable and adequate communications infrastructure
- Municipality should source all office supplies sustainability
- Get some form of "Hydro" on Bowen
- Keep present community/on-island worker percent numbers
  - Aim to increase jobs on Bowen
- Create telecommuting office style jobs
- Parking in The Cove requirements exceeds physical ability to provide parking
- Build some live/work unites or other similar alternatives
- Change ? by-law for businesses in cove (lower to allow development)
- Very active municipal hand in affordable housing (off-market)
- Shop online – deliver good all at once...alternative retail services
- PPP
- The Snug Cove Surplus lands and other current developments have considerable potential to provide for facilities to develop a vibrant and strong local economy (hospitality, culture, education, art, recreation, health and health supporting services, assisted living etc, all are viable and realistic on Bowen Island)
- New mesh wireless technology for entire island
- Distribute tourist dollars to other areas of island by encouraging studio tours, etc
- Process raw materials locally rather than importing
  - I.e. Process trees removed for development into timbre for use on site and process manufactured gravels from on site blasting
- Municipal tax reductions as incentives for certain types of initiatives that also tie to social diversity (retreat centers, festivals, etc)
- Share info on green business opportunities for individuals
- Get Blue boxes and hire truck to pick up it up to save on gas and hassle on everyone driving to B.I.R.D
- Study what local business functions are missing...what would it take to bring that business here rather than all of us commuting to it?

- create a community forest from Crown levels and start some value-added business:
  - Timbers (post & beam) flooring, windows and doors, etc.
  - palletizing bio-mass for electrical power plants for local utilities (new)
- offer incentives to businesses with green guidelines
- more retreats – all kinds of job creating quiet good neighbour businesses
- home-based businesses/offices
- build little marketplace at public square to help sell local agriculture
- Rent a shopping locker. On the way to work you leave your empties and shopping list there. Or, shop on line and pick-up in the evening
- reduce commercial property tax as much as possible
- build a small “convention centre”, space for rent, supported by small businesses that provide the required services right in the village/cove
- Work with and encourage Chamber of Commerce to create Economic Derel Plan built on sustainability principles (address climate change and peak oil issues)
- Consider OLP amendments to 1. Rezone land, light industrial/commercial. 2. New village node (Seymour Bay’s crossroads)
- What is our competitive advantage that we can offer to businesses
- Create more island festivals
- Promote our public parks & facilities
- Create a Bowen-only currency, called the “Boonie”

**Who needs to be consulted?**

- Industry experts, i.e. sophisticated urban designers/economists
- The local decision makers, especially Council and Municipal staff
- Chamber of Commerce/business community – lead
- Emily Carr
- Capilano College

# **Bowen Island 2020 Vision and Development Assessment Tool**



**January 2008**

**Sustainability Framework Working Group**

## **Bowen Island 2020 Vision**

First, you see the trees.

Here in the year 2020, Bowen Island is cloaked in a lush mantle of green. It didn't get that way by accident. A series of early-century decisions set aside the community's forests as biological treasures, carbon sinks, and powerful recreational and economic assets. By focusing on dense, mixed-used development, and by creating incentives to convert private land and crown land into parks and future farms, islanders have strengthened community ties, reduced greenhouse-gas emissions, and curtailed consumption of natural resources.

Snug Cove still looks like a maritime village tucked among the trees. It remains the community's commercial, recreational, and residential hub—many more people now live, work, walk, create, shop, and play here. With a variety of housing types—such as apartments and live-work spaces above stores—the neighbourhood hosts a diverse population, reflecting a wide variety of incomes, ages, and family types. Meanwhile, the area's impressive civic facilities serve as the community's front porch and living room.

A balanced development plan has diversified the economy, allowing more islanders to not only work on the island but also purchase most of their goods and services here. Bowen now supports a wide array of home, office, service, retail, and health businesses, light industrial enterprises, as well as its own food production and waste-management operations. Thanks to a comprehensive resource-recovery program and a state-of-the-art composting facility, the quantity of garbage leaving our shores has slowed to a trickle.

Despite the significant increase in the island's population, there are fewer private vehicles on the roads—the result of viable public transportation and rideshare systems, expanded trail networks, and mixed-use neighbourhoods that lessen the need for travel. While ferry traffic still moves through the village, volumes have declined because so many people now live and work on the island. Of those who do need to leave Bowen for employment, many do so as foot passengers; the convenience of our transit system linked with Metro Vancouver far outweighs the expense, delays, and ecological costs of private automobiles.

You can see the quality of life on the people's faces; Bowenites are content, caring, fully engaged, and committed to building a conscientious community. As the island prospers, so, too, does its culture and arts. With an increasingly self-reliant and vibrant economy, combined with a housing authority that offers myriad affordable-living options, we have enhanced social diversity and community well-being. We look out for one other. We are sensitive to the economics, health, and well-being of our neighbours and the environment. We are proud of where we live.

Indeed, we should be. Our island has been recognized nationally for several remarkable achievements: It exemplifies how a community can remain small, affordable, and safe, despite its proximity to one of the world's great cities. It has demonstrated how an increasingly exclusive and car-dependent suburb can transform itself into a socially diverse, largely self-reliant community. And it is leading the way with year-round food production, renewable energy generation, and programs working toward carbon neutrality and zero waste. In short, Bowen Island is renowned for its unshakeable commitment to its people, its economy, and its ecological integrity. It has become an adaptable and resilient community for present and future generations.

# **Bowen Island Development Assessment Tool**

The coming years will bring significant challenges to Bowen Island and the world at large. Climate change is expected to increase the likelihood and frequency of severe-weather events, alter sea levels, and impact global economic patterns and stability. Meanwhile, the cost of fossil fuels, particularly oil, will rise as increasing worldwide demand places pressure on finite supplies—impacting transportation and food security. Our island's low-density development patterns threaten its natural ecological systems, while, demographic changes present an additional unique set of social and economic challenges.

In support of its core mission to advance "economic, environmental and social well-being for present and future generations," Bowen Island Municipality is putting in place innovative policies and strategies designed to ensure our rural community prospers against this emerging and evolving backdrop. Indeed, this island will become nothing less than one of the nation's leading sustainable communities.

To reach this goal, we will need to reconsider our notions of "business as usual." Community infrastructure put in place today will set the performance bar for decades and centuries to come. It is therefore critical that decisions surrounding new neighbourhoods, buildings, roads, and similar installations support long-term sustainability objectives.

The enclosed Development Assessment Tool is designed to ensure that parties pursuing rezoning, subdivision, and development-permit applications support the island's sustainability agenda by embracing eight sustainable-development directives. The directives are:

- 9. Recognize Special Potential of Site to Accelerate 2020 Vision**
- 10. Maintain Natural Island Character with Growth Focused in Snug Cove Village**
- 11. Support Efficient, Effective, and Innovative Transportation**
- 12. Adopt Green Building and Development Best Practices**
- 13. Protect and Enhance Ecosystems, and Support Climate Change Mitigation and Adaptation Strategies**
- 14. Design Infrastructure to be Efficient, Effective, and Restorative**
- 15. Build a Strong and Resilient Community**
- 16. Maximize Value, Equity, and Positive Impacts of Economic Activity**

## **1. Evaluate Special Potential of the Site to Accelerate Implementation of 2020 Vision**

*Through its 2020 Vision, the Municipality of Bowen Island has articulated an ambitious but attainable set of sustainable-development goals. While the community can help bring this vision to fruition by broadly embracing the directives and practices described in this document, the Municipality recognizes that the island's remaining large, intact land parcels offer unique economy-of-scale opportunities to accelerate adoption of these goals.*

### **1. Scale and Scope Considerations**

1. What is special or unique about this property when compared to other rezonings on Bowen Island?
2. What is the community opportunity this rezoning presents in order to make significant step changes toward the 2020 vision?
3. What are the barriers to achieving the 2020 vision that the development of this property presents, and how might they be mitigated?

## 2. Maintain Natural Island Character with Growth Focused in Snug Cove Village

*The Municipality of Bowen Island envisions itself maintaining its natural island character while accommodating its major growth in a mixed use node: Snug Cove. The intention is to retain as much forested, wild and agricultural land as possible while focusing major future housing, employment, community and recreational uses in the village of Snug Cove.*

### 1. Mixed-use centre development focus

1. When the proposed development is located in the development areas of Snug Cove
  1. Will it be encroaching upon its protected green spaces?
  2. What are the densities and building stock nature proposed for this development and how do they support or contribute to pedestrian, transit-oriented or low emission alternative forms of transportation?
  3. Will reduced energy use and emissions and use of renewable energy be addressed in the building design and in its required transportation needs?
2. Snug Cove is established as the primary village area on the Island. Where the proposed development is outside of Snug Cove, has the applicant considered the transfer of some or all of the sites' density to receiver areas in the Cove?
3. Where the proposed development is outside Snug Cove, outline how its phasing and land use plan will support the viability of the Snug Cove area as the Island's primary mixed-use village.
4. What are the densities proposed for this development and how do they support or contribute to transit-oriented or progressive low-emission alternative transportation?
5. Where the proposed project is outside Snug Cove Village outline how the proposed project:
  1. Does not detract from or remove key aspects of the areas' natural character and ecosystem and;
  2. Will reduce energy use and emissions and use renewable energy in the building design and in its required transportation. (Other sections of the sustainability checklist can be referenced here and a standard for more precise reference), and
  3. Will protect wild lands around and near the site, where transportation routes and other infrastructure paths into the site are required and where sensitive areas such as streams are located?

### 3. Support Efficient, Effective, and Innovative Transportation

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*Bowen Island envisions itself growing increasingly independent of fossil-fuel-based transportation; where there is, over time, decreasing need for an automobile to live, work raise a family, attend school, or run a business, where access to desired destinations is safe and easy; where movement of goods and equipment is efficient and cost-effective; and where road, trail, and marine routes have a minimal impact on the landscape and support a full range of human-powered travel modes and small, alternate vehicles.*

#### 1. Sustainable transportation options

1. How does the proposed project support the following more sustainable and carbon-reduced modes of mobility:
  1. Walking?
  2. Cycling?
  3. Ride sharing?
  4. Transit use?
  5. High efficiency vehicles?
  6. Clean and renewable fuels?
  7. Car sharing or other innovative systems?
2. How does this project support a local and Island-wide walking and cycling network?
3. How will transportation be managed so that the current car ferry is not overburdened, or additional car ferry capacity required?

#### 2. Innovative road design

1. How does the street design in the proposed project support an objective of multi-tasked roads that accommodate vehicles but also provide for other uses such as transit pick up, safe pedestrian mobility, play areas, gardens, habitat or others as appropriate?
2. How does the road design provide the experience of country roads or lanes, and minimize intrusion into the landscape?
3. How is the burden of future roads maintenance on the municipality minimized?
4. How will the construction of the roads minimize disturbance of surrounding landscape?
5. Describe the “green” aspects of the roads design (for example, minimizing disturbance of surrounding landscape, minimizing road width allowing for appropriate pull outs, combining use by laying underground utility services, use of permeable surfaces, storm-water management).

### **3. Car-dependency and greenhouse-gas impact**

1. What measures reduce the dependency of residents on cars to access major routes served by transit?
  2. What transportation greenhouse gas load will this development add to Bowen's emissions?
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## 4. Adopt Green-Building And Development Best Practices

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*Bowen Island's buildings will evolve to be energy and water efficient, constructed largely from local materials (from the island or the surrounding region), have low greenhouse-gas emissions, and address on-site waste management while retaining the unique character of built form on Bowen Island. Their designs will encourage and enhance healthy close community living on a day to day basis. They will be built to last.*

### 1. Green buildings

1. How do the buildings in the proposed project address the green building objectives of the Island including: ( or : How do the buildings, their numbers and their configuration fit within the larger context of a viable, resilient Island community with considerations for social, economical and environmental well being?) Considerations include:

1. Minimized site disturbance or strategic restoration of areas disturbed?
2. Maintain energy efficiency strategies and reduce overall consumption on a continuum to least use scenario. E.g. "PassivHause" model?
3. Seek renewable energy supply?
4. Use water efficiency and water harvesting practices?
5. Employ solid waste management & innovations during and after construction and throughout the life of the building ?
6. Use of recycled and recyclable materials?
7. Use local and non-toxic materials?
8. Uphold high indoor air quality?
9. Support/supply sustainable transportation options?
10. Other sustainable-development innovations?
  - Are indoor and outdoor living spaces designed for multiple uses including public gathering and view areas?
  - Are living spaces and buildings designed for adaptation for working and aging in place, mixed generational, a variety of incomes, and structural integrity for longevity?
  - Is there a recommended a footprint size for single family dwellings and for multi units, a recommended square foot per unit?
  - How will residence be informed of operational procedures to maintain their homes in the best possible way, that being a critical step in the sustainability of homes and resource management?

2. Does the project comply with the Bowen Island Municipality Residential Green Building Policy or use another green building rating system?
3. How do the designs of the buildings and their locations address existing and expected coastal Island weather patterns?
4. Others as defined by applicable design guidelines?

## 5. Protect and Enhance Ecosystems, Including Climate Change Mitigation and Adaptation Strategies

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*The Island Municipality envisions a network of natural, undeveloped spaces on land and in the adjacent sea that assures the provision in perpetuity of:*

- *Water quality and supply, storm-water management, air quality maintenance (green infrastructure);*
- *A healthy, attractive and resilient ecosystem that is valued for its natural and self-sustaining functions and services as “green infrastructure”;*
- *Varied, high quality recreational opportunities, on land and in the sea, for residents and visitors; and*
- *Viable and sustainable local production of agricultural, fish, firewood, timber and other natural products;*
- *Unique rural island character and community identity;*
- *Economic opportunities such as tourism, property values, and others.*

### **1. Comprehensive landscape strategy**

1. Outline the space that is proposed to be retained in undeveloped form in this project and its scope and location of planned uses including:

1. Conservation strategy – preservation of environmentally sensitive and significant areas and maintenance of ecosystem functions of green infrastructure in order to avoid the need for replacement with costly constructed infrastructure;
2. Areas of preserved, restored or newly created habitat – support of biodiversity;
3. Green space for outdoor recreation and trails, including pedestrian and bicycle trails as sustainable transportation options;
4. Space reserved for local food production;
5. Watershed catchment to meet or exceed the Project’s long term needs; and
6. Connectivity of natural areas within the project and to adjacent natural areas (greenways);
7. Others (for example, prevention of soil contamination, spaces for indoor recreation, etc.)

2. How does the natural, undeveloped space in this project fit with the growing network of green spaces and greenways in the immediate area and across the Island?

3. Does your project design avoid the fragmentation of existing "green-zoned" lands by roads, utility corridors, etc?

4. Does your project foster greater environmental sustainability by shaping the pattern of development, such as through clustering, or defining building envelopes on larger lots?

5. Detail how the natural, undeveloped spaces will be secured, for example, as municipal park, ecological reserve, or conservation covenant.
6. How does your proposed development plan respond to the community's pre-existing land use patterns, landscape elements considered important by the community, plans and strategies, biophysical reports and mapping? What additional community mapping do you propose for this area, if any?
7. How does you plan propose to minimize local air pollution (traffic and idling, woodstoves, businesses, waste management, etc.)
8. Has a site clearing plan been created to minimize negative impacts where areas need to be cleared?
9. Have native or water-wise plants been chosen for ornamental areas, where habitat or food production uses are not primary?
10. How does your project take into account risks to wildlife (e.g., power lines, roads, etc.)

## **2. Consultation with residents and other stakeholders**

1. Have naturalists and environmental stewardship groups on the Island been consulted during the conceptual design of this project?
2. Have outdoor recreational groups on the Island been consulted on this project? (such as hikers, horse riders, cyclists, runners, rock climbers, etc.)
3. Have aesthetic, spiritual, health and other dimensions been considered in the conceptual design of this project?
4. Are any efforts going to be made to educate future residents of the Project lands about stewardship of the local and Island landscape?

## **3. Biodiversity**

1. How does the landscape plan protect, restore or enhance biodiversity on the Island and preserve the integrity of the existing ecosystem?
2. How does the landscape plan protect or enhance species at risk and their habitats?
3. How does the landscape plan align with Island greenspace and biodiversity plans?
4. Does the landscape plan include avoiding the introduction of and the management of any foreign invasive species (such as Scotch Broom, Japanese Knotweed, Gorse, English Ivy, Eastern Grey Squirrel, others) that occur in the project area?
5. To reduce potential wildlife impacts, does the site-clearing plan consider the season or time of year?

## **4. Local habitat provision**

1. How has habitat for wildlife and native plants been planned into the project – for insects, amphibians, songbirds, raptors, wildflowers, fish and shellfish and others?
2. How do any proposed habitat areas maintain or create effective links to nearby habitat areas (avoid barriers, bottle-necks and fragmentation)?
3. Are any existing degraded areas within or outside of the property being restored as part of the project?
4. Is any new habitat being created on or outside of the project lands? (e.g., ponds, wetlands, bird nesting platforms, artificial reefs, etc.)

## **5. Community health, wellness, and recreation**

1. Outline the scope of quality recreation opportunities provided in the project's landscape and describe how they would meet the wellness and recreational needs and desires of the project's residents and/or members of the community. Outline these based on people's age, ability, recreation needs, etc.
2. Are important trails, viewpoints or viewsapes or sense of wilderness preserved or offered in the design?
3. Does the project include the creation of natural parks, passive multi use activity, neighbourhood and other parks, beaches and coastal and marine access?
4. Does the project include the creation of places where neighbours can meet, increase sense of community and social ties?
5. Outline how the project protects the visual, acoustic and aromatic aesthetics of the landscape when viewed or experienced from other places on the island or from the surrounding sea?

## **6. Agriculture, silviculture, and fisheries**

1. Does this project impact Agricultural Land Reserve (ALR) land? If so, are higher classes of agricultural soils being adversely affected?
2. Are non-ALR but agriculturally viable lands being affected?
3. What opportunities are being provided to grow food in the project area, possibly including but not limited to:
  - Backyard gardens, community gardens, balcony / deck potted gardens;
  - Edible / productive landscaping using food producing plants mixed with ornamentals, fruit trees, etc.;
  - Livestock; or
  - Wild food gathering in green spaces?
4. What opportunities are being provided to produce other renewable resources in the project area, including but not limited to firewood, timber and fiber, and compost and organic soil amendments.

5. What opportunities are being provided to manage and harvest marine or aquatic renewable resources in the project area, including but not limited to fish, shellfish, and marine plants.

## **7. Climate change**

1. How does your project support carbon-neutral development?
2. Are the species selected for the site planting resilient to possible climate change impacts including drought, heavy precipitation or increased variability of other factors such as temperature and wind?
3. Are storm, drought and other severe events and sea level changes considered in the project plan?

## **8. Energy**

1. How does the project design and layout facilitate onsite energy production including but not limited to biomass, solar, wind, geothermal, and microhydro.
2. How does the project design minimize local air pollution from energy use?
3. How does the project design and layout reduce the need for imported energy?

## **9. Environmental protection**

1. What percentage of the project land is set aside for:
  1. Watershed and aquifer protection possibly through protection or restoration or creation of riparian, stream lake/pond and wetland areas; construction of ecologically based storm-water detention, filtration and groundwater recharge?
  2. Wildlife and native plant habitat, possibly through the protection, enhancement or restoration of key areas or corridors or habitat types, or creation of new habitats?
2. Where the project involves Crown Land, detail how island-wide water supply, water quality and ecological integrity and green infrastructure generally are being maintained.

## **10. Construction**

1. Has a construction management plan been created to protect the site and nearby environmentally sensitive or significant areas, and prevent introduction of exotic invasive species during construction where applicable?
2. How will clearing and grubbing be managed?
  1. Is native topsoil to be retained or salvaged and stockpiled for subsequent reuse?

2. Is native vegetation to be retained or salvaged and stored for subsequent replanting?
  3. Is the merchantable timber to be used on island? Is the smaller-diameter non-merchantable timber to be made available for use as firewood, mulch and organic soil amendments rather than incinerated?
  4. How will the project minimize or avoid the incineration of woody debris?
3. What steps will be taken to reduce the disturbance footprint and/or restore or replace any natural areas damaged during construction?
  4. Will the construction phase be monitored by an independent, qualified environmental specialist?

## **11. Trade-offs**

1. How are environmental elements of the foregoing sections, which are not provided in the proposed project, off-set or compensated through the creation of alternative benefits?
2. How are water supply and water quality and other green infrastructure elements of the foregoing sections, which are not provided in the proposed project, off-set or compensated through the creation of alternative benefits?
3. How are recreational elements of the foregoing sections, which are not provided in the proposed project, off-set or compensated through the creation of alternative benefits?
4. How are agricultural, silvicultural, fisheries elements of the foregoing sections, which are not provided in the proposed project, off-set or compensated through the creation of alternative benefits?
5. How are the climate change and energy elements of the foregoing sections, which are not provided in the proposed project, off-set or compensated through the creation of alternative benefits?

## 6. Design Infrastructure to be Efficient, Effective, and Restorative

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*The Municipality of Bowen Island envisions energy, water and waste management practices will meet sustainability objectives through low-impact designs; enhanced recovery of resources from infrastructure systems; decreased environmental risks; use of local, renewable energy in rural areas; and the use of highly efficient shared infrastructure systems in village centres.*

### **1. Energy systems**

1. How does the proposed project address energy efficiency, supply of local renewable energy and reduction of emissions?
2. Can any estimations be provided regarding the levels of performance that may be reached with this project in energy and emissions?

### **2. Water and liquid-waste management**

1. How does the proposed project promote water conservation possibly including:
  1. High efficiency bathroom and kitchen fixtures?
  2. High efficiency appliances (such as clothes or dish washers)?
  3. Rainwater harvesting and the use of recycled grey water?
  4. Low water landscaping and guidelines such as the Xeriscape Principles
2. Is liquid waste being managed in a safe and ecologically benign manner and used as a resource? Are opportunities for re-use of greywater being pursued? Are opportunities for treated effluent reuse through irrigation and/or creation of new aquatic habitat being pursued? Are opportunities for on-island recycling of biosolids (septage or treatment-plant sludges) being pursued, or heat recovery from sewage lines and tanks?
3. Is education of the future residents of the project included in the project implementation?

### **3. Storm-water management**

1. Is storm water being managed to eliminate toxins and preserve the health of riparian areas and aquifers through bioswales, raingardens or other mechanisms?
2. Is the net permeability of the landscape being preserved or enhanced to minimize runoff over the predevelopment condition?
3. Is education of the future residents of the project included in the project implementation?

#### **4. Solid-waste management**

1. How does the proposed project reduce waste going to the landfill through:
  1. Implementation of a construction waste management and recycling plan?
  2. Designing buildings for 4 stream separation (garbage, recyclables, compostables, and reuse)?
  3. Providing opportunities for composting or reuse it facilities?
  4. education of the future residents?

## 7. Build a Strong and Resilient Community

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*Bowen Island envisions itself as an inclusive, equitable, healthy and vital community with a strong "islander" identity and a strong culture of sustainability.*

### **1. Bowen Island identity, art and culture**

1. How does this project support the expression of specific aspects of the Bowen Island community, or Bowen sense of place?
2. How is public art included or how are Bowen artisans profiled in the project?
3. How does this project support Bowen's cultural groups?
4. How does this project contribute to the implementation of the Cultural Master Plan and other municipal plans or strategies related to building or supporting the community?
5. What account does the project take of the island's heritage?

### **2. Social capital and community engagement**

1. How is the community being involved in the project during the planning, construction and post-construction phases?
2. What opportunities for community volunteerism or engagement in decisions are provided by the project?
3. How does this project support local neighbourhood or community spirit and the building of social capital (eg indoor common social and meeting place, outdoor public places)?

### **3. Collaborations and Partnerships**

1. What collaborations or partnerships have been pursued or are possible with Island groups or educational institutions or, possibly, island business, in design, construction or after development of the project?

### **4. Responding to the needs of youth, seniors or others**

1. How does this project respond to the needs of youth, seniors or others who are facing challenges in the community?

### **5. Affordable Housing and Diversity**

1. How does this project address affordable housing needs as described in the Housing Needs assessment and strategy?
2. How does this project contribute to and support the island's social diversity (eg mix of housing types).

### **6. Community Health**

1. How has the health of residents been factored into the design of this project (eg non-toxic materials, community garden, walking/cycling trail links).

## 8. Maximize Value, Equity, and Positive Impacts of Economic Activity

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*Bowen Island Municipality envisions a diverse and vibrant economy based on a triple bottom line accounting of economic viability, environment responsibility and social equity.*

### **1. Economic development benefits to the Island**

1. What economic benefits will the project bring to the Island including:
  1. Investment in existing businesses?
  2. Creating new businesses?
  3. Providing local employment?
  4. Providing infrastructure or other supports to enhance business efficiency and opportunity?
  5. Increasing the value of tourism?
  6. Expanding or enhancing opportunities for telecommuting?
  7. Encouraging future residents to live and work on the island?

### **2. Resource stewardship**

1. Does the proposed project utilize Island agricultural, forestry, fishery or other resources?
2. If so, does the proposed project support the stewardship of Island agricultural, forestry, fishery or other resources?

### **3. Green business opportunities**

1. How does the proposed project support green businesses in its procurement requirements?
2. How does the design of any commercial spaces in the project support green business practices, such as higher efficiencies, better waste management or others?
3. How does the proposed project reduce the need for commuting?

### **4. Integrated business systems (industrial ecology)**

1. Are any opportunities being pursued for businesses that are associated with the project to link with other local businesses to share resources, wastes, expertise, transportation logistics or other elements to achieve higher economic and environmental performance?